

UC-NRLF



B 3 109 138

LIBRARY
OF THE
UNIVERSITY OF CALIFORNIA.

GIFT OF

Boutwell Dunlap.

Class

LIBRARY
G



ARGENTINE REPUBLIC'S
SECRETARY OF AGRICULTURE

BOVINE

TUBERCULOSIS



IMP OF "LA AGRICULTURA NACIONAL"

1909 BUENOS AIRES 1909

1255 -- RIVADAVIA -- 1255



Digitized by the Internet Archive
in 2008 with funding from
Microsoft Corporation

BOVINE TUBERCULOSIS



REPÚBLICA ARGENTINA
MINISTERIO DE AGRICULTURA

BOVINE TUBERCULOSIS

*This is a copy of the Information presented to
the Secretary of Agriculture by Dr. Ramón Bi-
dart Inspector General of veterinary police in
the Cattle Board.*



BUENOS AIRES
1909

SF804

R7

BIOLOGY
LIBRARY
G

Handwritten:
The ...
... ..



CHAPTER I

Generalities concerning Tuberculosis. —

Plan of the present work. — Object and character of same. —

Methods [and sources of investigation.

Bovine Tuberculosis in the present state of scientific knowledge constitutes an ineluctable tribute which, once the disease has entered the system, life pays to death.

This death-tribute imposed by an inexorable law upon all the people of the earth, moves the goodwill of eminent men devoted to the study of the most abstruse biological phenomena, constrains the intellectual activity of all the Scientific Corporations and Institutes of the globe, and universally agitates So-

cieties and States; who, one and all, at the impulse as it were of the same moving power, are inspired with the noble ambition of stamping out a plague, the ravages of which may be estimated by the enormous death-rate show in the Statistical Tables of all nations.

The fatal effects of Tuberculosis in man and cattle are felt with varying intensity in all parts of the world, and if Science is still impotent to check them, it is to be hoped that the conjoint efforts of Government and Scientific Institutions will not prove fruitless, and that keeping in view the general laws which govern the phenomena of life, the precise form to destroy tuberculosis may be discovered.

The Argentine Government has taken an active part in the struggle. The present work, a brief of an extensive report drawn up by the Cattle Board, offers one of many proofs of the interest with which the Scientific struggle

against tuberculosis is watched in this country. In the Report referred to, a great number of data of detail of undeniable interest to this Republic are given, and such evidence proves convincingly that the moment for alarm—when the disease must be considered as a great peril in progressive development among our herds—has not come.

The Argentine Republic in this respect, as is sh^own later, is one of the healthiest countries.

The extreme percentag^e of tuberculosis among our dairy-cows is far inferior tho the figures shown in the general statistics of other countries, and the condition and health of cattle in general cannot be better, the proportion of tuberculosis being quite insignificant, as the results of numerous recent investigations carried out, testify.

There is no space in this abridgment, for a series of reports and details of experiments from the works of European

authors, although they are published in the Spanish edition as a means of making the minds of argentine breeders perfectly easy. In the course of this publication the necessary reference to them will be found, so as to facilitate comparison with those carried out in this country. The foreign reports and investigations referred to, would be out of place here, for two reasons; we should offer other nations an incomplete summary of their own labours, and at the same time give an excessive extent to a work such as this, the exclusive object of which, is to diffuse the knowledge of the essentially Argentine elements of the matter, in order that outsiders may form a clear opinion of the real condition of our herds, regarding tuberculosis.

The method of investigation followed is extremely simple and conclusive. It was not a question of studying the etiology of tuberculosis in accordance with

strict scientific method; but simply of amplifying as far as possible the fund of well-grounded information gathered to date, respecting the pathology and prophylaxis of the disease, keeping well in view the principal object of our initiative, which consists in determining by the check of «Tuberculine», applied to the greatest number of cattle, at grass, or housed in dairies, the percentage of tuberculosis existent in this country.

The existence of the disease being suspected or known, through the diagnostic reaction of «Tuberculine» applied according to the classical system of hypodermic injections; and in some cases by the new proceeding called «Ophthalmo-cuti-dermo-reaction», the subject was slaughtered for anatomical investigation, which should confirm the results obtained through «Tuberculine».

In this way was obtained the corroboration of the theory. that the initial lesion most often found in organisms

attacked by the *Bacillus* of Koch, is the lesion of the ganglions.

This corroboration gives greater and better grounded elements for the diagnosis of the disease in its first stages.

The sources from which these conclusions have been arrived at, are distinct, and can be classed into two groups «Wide-spread Cattle» (*Ganaderia Extensiva*) and «Crowded Cattle» (*Ganaderia Intensiva*). In the first group are included:

1.^o Cattle for the Public Slaughter Houses of the Federal Capital.

2.^o Cattle for the Public Slaughter Houses in the Provinces.

3.^o do. for the Frigorifics.

4.^o do. for the Salting Sheds.

In the second group are included:

1.^o Cattle for breeding, undergoing the «Tuberculine» proof in the Quarantine Lazaretto.

2.^o Cattle in existence in the «Natio-

nal Schools of Agriculture and Cattle rearing».

3.º Cattle existent in the cow-sheds (dairies, tambo~~s~~ or milk shops).

4.º Pure bred pedigree cattle, or cross pure bred cattle, existent in certain cattle breeding establishments, whose owners have afforded facilities for investigation, to made. The Statistics of the different percentage of tuberculosis obtained from such different sources of investigation will be found in compendium further on. The said Statistics furnish a definite proof that Tuberculosis exists only in a minimum proportion in the Argentine; altho, this should not mean that we are to take no farther heed of a peril which such proportion might represent in the future more or less remote.

CHAPTER II.

Geographical distribution of Tuberculosis. — Foci of contagion. — Ratio between contagion and density of Animal population.

Tuberculosis in the Argentine Republic has gradually developed in ratio to the density of animal population.

The danger of its presence may be considered of little or no importance in the breeding districts:—Territorios Nacionales de Santa Cruz, Chubut, Rio Negro, Neuquen. Pampa Central y Misiones for the reason that the population of bovines is rarely above 10 to 20 head per square kilometer.

Altho' in greater numerical proportion, it is equally inoffensive and insignificant in the provinces of Entre Rios, Corrien-

tes, San Luis, Catamarca, Mendoza, San Juan, Rioja, Jujuy, Tucuman, Salta and the Northern parts of the provinces of Santa Fe and Córdoba.

It is more marked in the Southern regions of Santa Fe and Córdoba and in the Province of Buenos Ayres.

Upon separate examination of each of the regions in which the proportion of tuberculosis is relatively greater, it is to be observed that in a given district there are a greater number of tuberculous subjects in the establishments situated near the towns; i.e. tambos, cow-sheds, and milk shops.

These results which are fully proved agree with the conclusions generally accepted, respecting means of contagion.

The development of the disease is moreover in direct ratio to age, and to density of stalling, and to the numbers stalled in a given place. Several experiments made in France prove that in certain stalls the proportion of tuberculo-

se subjects is 60 ‰, and in general as much as 41 ‰.

In proportion as the animal population grows denser, the facility of contagion is greater for all species. Such conditions of contagion reach their maximum when, in spite of keeping the cattle at grass, i.e. in the open fields and air, they are specially employed in a way which keeps them crowded together and in continual contact. As for example, in our rural cow-sheds situate in rich pasture land, with 2 to 5 head per hectarea, where the cattle is penned up once or twice a day for milking, where the calves are enclosed in yards so small that they have no room to move freely, the proportion of the attacked is considerably greater.

In this class of establishments the infected animals whose excretions are full of bacilli, become a constant and real danger.

One alone is sufficient in some cases

to infect a numerous herd; contaminating the one artificial watering place, as also the ground, and the posts of the enclosure, spreading and transmitting the virus, by expectoration, by licking one another, or by dams licking their calves.

In such parts, selection of the best milk-producers is always made, and they are preserved only in view of their abundant yield of milk.

This gives rise to another factor of contamination; as subjects attacked by chronic and slow tuberculosis, give forth virulent matters; of pulmonary, intestinal, uterine, or mammary origin.

For similar reasons to those which favour the diffusion of tuberculosis in the dairies situate in our rural districts, the animals employed in agricultural labour—the oxen—are frequently exposed to contamination. Respecting these, two further circumstances concur, i.e. age, generally advanced—and the weakening

of the system through overwork. Notwithstanding, in this class of animals which in some cases are kept half the time in sheds and half at grass, contamination has not yet spread in alarming proportions. The cases of tuberculosis revealed in our Slaughter Houses, indicate that we may consider that the bovines used in husbandry and haulage over all the Territory of the Republic are infected only in an incipient form.

Without hesitation therefore it may be stated that the diffusion of tuberculosis is insignificant among animals exposed by the method of keeping, special use, age, or stalling, to a medium most favourable to contamination by tuberculosis.

To permanent stalling, crowded dairies, and the breeding establishment; which of themselves favour contamination, must be added, that in the greater number of the cow-Sheds in cities, and in a great many breeding establishments, the sheds have no stalls, and only one

feeding and watering place for all. Under such conditions, the nasal excretions, sputa, mucus ejected when coughing, and dejections, splash the food, the walls, the troughs and beds, and so the virulent matters pass into the digestive canal of the animal near the diseased one.

These circumstances explain the why and the wherefore of the contamination among stalled cattle, and prove that the presence of one tuberculose animal may be considered as a grave peril for the whole number in the same shed.

CHAPTER III

Natural immunity.—Noxious subjects and harmless subjects.—Influence of the system of breeding.—Vallée, Friedberger and Fronhern.

Some subjects are harmless. Among the noxious subjects some are more and others less contaminating. Serous tuberculosis is not contaminating, nor is that which does not manifest itself with virulent excretions.

In presence of a noxious subject, various circumstances which tend to prevent contagion may be enumerated; in the country, under the wide-spread system of breeding cattle, in use in the Argentine, an animal attacked by tuberculosis is almost harmless, in spite of its virulent excretions. The bacillus of Kock is amply spread about the surroundings,

but its action is not felt at any distance except very rarely. As a rule its propagation is not to be feared, except on the very spot where the subject expels it and its vitality is attenuated, and rapidly desappears, destroyed by the very surroundings.

Exposed to the open air and to the action of solar light, the virulence and power of contamination of the bacillus notably diminishes. The mucus sputa the uterine issues, and all other excretions full of bacilli, are sterilized by dissection, by the action of solar light and by spontaneous pulverization of the media. This opinion which is fairly general, has been confirmed by the eminent Professor Vallée in a series of conferences given in Paris in 1906.

Referring to this special point Professor Vallée said.

« We have still to find out what becomes of the bacilli which come from
“ the system of the tuberculous subject.

“ Can they develop germs on the ground?

“ Can they reproduce themselves in the

“ water of the drinking places? Are they

“ positively dangerous and is the conta-

“ mination of the fields to be feared?

“ Can the bacillus of tuberculosis thri-

“ ve upon the tops of the lucern (alfal-

“ fa), for example, if it can reproduce it-

“ self in the water of the drinking pla-

“ ces, does this constitute a case for

“ alarm on the score of the propagation

“ of tuberculosis?

“ Fortunately no such things occur

“ It is now some time since experiments

“ were made as to the endurance of the

“ bacillus of tuberculosis outside the ani-

“ mal medium, and we have learned that

“ altho the virulence of the bacillus of tu-

“ berculosis lasts a long time away from

“ the organism, germs from that micro-

“ be cannot thrive. The virulence of the

“ sputa on the grass of the Argentine

“ pastures is greatly weakened, as that

“ grass is exposed to the sun, and is

“ oxygenized, oxidized and ox^yonized, (a
“ thing more important than any), by
“ the dews of each morning.

“ On the other hand, the dejections
“ dropped in the fields do not long re-
“ main noxious. neither can the bacillus
“ develop itself in the water of the drin-
“ king places in the broad sunlit fields
“ nor can they preserve their virulence
“ long.

“ To turn a tuberculose animal out to
“ grass is perhaps the most simple man-
“ ner of rendering it harmless to those
“ near, as the bacilli which it ejects are
“ in that way very wide spread. and
“ destroyed by natural agents, before they
“ have been able to do any harm.

This opinion, (an authorized one coming from whom it comes), agrees with the remarkable report of Professor Cadeac. He made six experiments administering from 25 miligrams to 10 centigrams of dust from the sputa disseminated in the dark, mixed with the food of 30 sucking

pigs, without obtaining any signs of tuberculous lesion.

He repeated the experiment with dust from the sputa dried in daylight, in the interior of the laboratory with negative results, in spite of a long series of trials. Finally this tenacious investigator gave the subjects 10 centigrams of dust disseminated in the open air and light, and after a certain lapse of time the post mortem revealed in one alone, hardly perceptible granulations in the lungs and liver; the other organs were perfectly healthy.

We must admit, then, that virulent germs disseminated, are only reabsorbed in small quantities and on very rare occasions, moreover, the virus is in a bad state of preservation, and furthermore, the indirect means of contagion are exceptional, seeing that the necessary condition for infection consists in the repetition of the virulent contacts.

Among others, Freidberger and Fron

hern, coincide also in the opinion that contagion is generally produced by cohabitation only.

There are two other essential causes which contribute to increase the grade of natural immunity of the Argentine cattle, in the first place the resistance of the native country-bred cattle to contract tuberculosis, and the early age at which the greater majority of our cattle intended for beef, are sent to the shambles or exported.

The first of these opinions, corroborated on the other hand by us, comes from foreign countries, where the erroneous belief exists that for us the question of tuberculosis in our herds, is a grave problem.

Let us hear what Walley says on the subject, referring to England;

“ The breeds of cattle offering the greatest receptibility for tuberculosis are the Alderney and Shorthorn. Certain races are especially contaminated,

“ *above all the most selected and pure*
“ *bred*; in these last, the proportion of tu-
“ berculous subjects is as high as 50 o/o
“ and more. The old breeds are almost
“ free from the disease. The celebrated
“ breeds of Alderney Shorthorn, Ayr, are
“ decimated with the infection, the most
“ valued familys of the Durhams, the
“ Dusses, for example, are on the point
“ of disappearing altogether. Of 15,392
“ animals subjected to “Tuberculine” from
“ 1897 to 1899, 26 o/o shewed reaction.

Wilson on his part calculates that half the bovines of Great Britain are affected with tuberculosis.

Our Quarantine Lazaretto confirms these assertions to the letter. In 1906. 1,433 bulls and 137 cows were imported from England, the mean average of tuberculosis was 9.63 and 65.69 o/o respectively. In 1907 and 1908 the medium of tuberculous bulls was 10.23 and 11.51 o/o; that of cows, for the same period 39.02 and 9.85 o/o respectively.

It must be borne in mind that this percentage would have been much higher if the figures of the Statistics had not been diminished by the clandestine Tuberculine proofs discovered in 1908, which are positively known to have been practised from 1905.

The official inspections made in the interior of the Republic, do not differ as far as the immunity of our native herds goes. The veterinary inspection of the Concordia Slaughter House (Province of Entre Rios) from 1901 to 1908 has vouched for 12 cases of tuberculosis in 87,749 animals slaughtered for market during that period, and nearly the total of the 12 tuberculoes mentioned were the offspring of repeated crossings. The Director of Agriculture and Cattle of the Province of Entre Rios, Dr. José Maria Quevedo, also considers the native cattle to be practically free from tuberculosis. In the Salting Establishment Santa Elena of the before named Province from April 1902

to October 1907, no case of bovine tuberculosis has been recorded, altho' more or less 40.000 animals per annum are dealt with.

Dr. M. Ortigosa, Official Inspector of Carcases at the Salting Establishment of Santa Adelaida, has made a similar report, altho' he cannot give the figures, he asserts, to his own knowing and in a direct manner, that tuberculosis only exists in selected herds of the Department of Gualaguay (Province of Entre Rios), altho, it is not greatly disseminated when he can say that of 700 animals recently inspected he did not find a simple case of tuberculosis.

To conclude this part concerning immunity in respect of age of cattle, suffice it to call attention to the fact that tuberculosis increases iwth the age of the animals, as is the case in our rural dairies and in the town dairies of all the cities o the world. This natural law must not be doubted on the score that it has

not been proved by investigation in our own country. Bang has found in France 27 o/o of tuberculous subjects between the age of six months to a year; 37 o/o between $1\frac{1}{2}$ to $2\frac{1}{2}$ years; 43.07 o/o between $2\frac{1}{2}$ to 5 years, and 47.05 o/o over 5 years of age. Martell obtained a very similar mean average (47 o/o in 8 year olds).

The application of this rule to our cattle gives us surprising results, bearing in mind that here the proportion of cattle over 5 years old, represents a small part of our herds, to such extent that some rural corporations have claimed that Federal Congress should vote laws to prohibit the slaughter of heifers which have not calved.

Further on we shall find figures demonstrating the real proportion of tuberculosis in the Argentine.

CHAPTER IV

Form in which tuberculosis manifests itself in the Argentine.—Symptomatology. — Ganglionic Tuberculosis Experiments realized.

The labours carried out by the Division of Cattle have served to prove that tuberculosis manifests itself in our cattle in the following forms:

Pulmonary Tuberculosis.

Pleural Tuberculosis.

Uterine Tuberculosis.

Mammary Tuberculosis.

Medular and cerebral Tuberculosis.

Ganglionic Tuberculosis.

General Tuberculosis.

In the first case the lesions in the lungs produced by the tuberculous bacillus manifest themselves by the apparition of a hard dry cough in fits, more

frequent in the mornings than in the evenings. The cough is readily brought on by taking cold drinks, or dusty forage, by the passing from temperate to cold air. Tuberculous animals that have remained in lying posture for some time, give a short dry cough upon rising. If the cough is very frequent it becomes sibilant and accompanied by exhaustion and choking. The cough may easily be brought on, in tuberculous subjects by closing the nasal fossus. The dorsal reflex moreover is usually very marked.

When the disease is in a very advanced stage, the respiratory movements corresponding to inspiration raise the ribs in an exaggerated manner. Very frequently the air expelled is charged with fetid odours.

It is difficult to prove the discharge of purulent secretions, altho' such nearly always exist, as the diseased subjects remove them with their tongue upon licking the nasal fossa?

At a period still more advanced the symptoms shew themselves in the general state of the subject, the hair loses its brightness and becomes faded, the skin gets dry and hard, the appetite tends to disappear and all the other functions are disturbed.

The temperature is not properly a symptom. It may rise as high as 41° c. and it may also be normal, intermittent or irregular.

Anemia advances, the mucus membranes become pale, the eye assumes a peculiar appearance, sunken, shining and melancholy; the skin under the eyelid forms a pale semicircle extending one or two centimeters towards the corners.

Respecting pleural tuberculosis the external manifestations of the lesions are very obscure. The majority rapidly lose strength without any noticeable symptoms, sometimes there may be hyperthermia.

There is however a symptom of great importance respecting tuberculosis in cows: i.e. nymphomania, when the heifer mounts the other animals simulatings the functions of a bull, and at the same time with a temperature of 39.5 to 40 ° c. In such cases one may affirm with some basis, that the subject is affected with the disease.

Uterine tuberculosis exclusively located in the uterus, may continue for a long time without showing any symptom worthy of notice, but the excretions are always accompanied with the bacilli of Koch in abundance.

Mammary tuberculosis exists when one or several quarters increase in volume, principally the hind quarters, and when at the same time there is diffuse tumefaction, in spite of which, the milk secreted may be of uniform quality. If to these symptoms be added notable hypertrophia of the supra-mammary, ganglions, the supposition becomes a certainty.

The disturbance of the locomotory powers, contraction of the muscles of the neck and opisthotonos, are symptoms which reveal the existence of tuberculosis of the medula and cerebellum.

They are accompanied by local paralysis, the act of swallowing become difficult, and there is ptyalism. The temperature may be unvaried. The gait is vacillating, the hind limbs cross, there is paresis and finally paralysis of the hind quarters.

The manifestations of this class of tuberculosis are similar to the symptom of acute meningitis, turns cerebral hæmorrhage and to poisonings.

The whole scale of symptomatology mentioned in this chapter may be observed in general tuberculosis. Articular tumefactions and interarticular adhesions moreover make their appearance.

Wounds in the skin may be found and are often tubercles. The disease may take an acute (miliary tuberculosis) or a hyper acute character.

We have purposely left for the last that which refers to ganglionic tuberculosis.

The majority of authors agree that the infection of the ganglionic system constitutes a complication of a secondary character.

According to the authors referred to, we should seek for the first symptoms of tuberculosis in the great thoracic and abdominal cavities, in the first of these above all because they suppose the lungs to be always affected. Our experience obliges us to form a different opinion.

According to the investigations realized the most general initial injury, the primal injury, that which is most frequently found in organisms affected by the bacilli of Koch, is the injury of the ganglions, with no other complication.

In 1906 this fact had already claimed the notice of Harrison, who had proved its veracity in post-mortem on subjects

slaughtered in official slaughter houses which had reacted under "Tuberculine". As will be understood this observation of Harrison is of capital importance for the early diagnosis of tuberculosis. Whilst we continue to believe that in the majority of cases the tuberculous injuries are to be found in the great thoracic and abdominal cavities in preference to any other part, the early diagnosis will remain very difficult.

For this reason we have endeavoured to find out with absolute precision the spot on the body where the first manifestations of tuberculous bacillus most generally appear, in order to reveal it from its very beginning, Dr. Juan B. Mendy has lent his assistance in the numerous official investigations carried out, and we have obtained a result which permits us to offer the following conclusions:

"The glanglionic tissues are the most frequently attacked and are those which

most frequently present isolated lesions in one or more ganglions, whereas no other lesions are found in any part of the body.

These experiments have been carried out in accordance with the following method.

In the Federal Capital, Slaughter Houses, after skinning, the carcass is divided into two parts, leaving the viscera held together by some of their natural adherents, the lungs, pleura, heart, pericardium, thoracic ganglions, diaphragm, liver, retrohepatic ganglions, are inspected by official veterinary service ocularly and by palpation.

In cases of doubt respecting the healthiness of a carcass, cuts are made in order to eminently inspect the parietal sides of the pleura and peritoneus, through which organ the iliac ganglions are examined by palpation.

In accordance with this method, in May 1908, 2,378 bovines were inspected

with the greatest prolixity, in cases where possible, the ganglions of the head have also been revised. The existence of tuberculosis was proved in 15 subjects only, i.e. 0.63 o/o, in the following form:

First tuberculous subject: Lesions of the lungs, of the tracheal bronchial and mediastinic ganglions.

Second tuberculous subject: Tuberculosis of the tracheal and bronchial ganglions only, with no other lesions.

Third tuberculous subject: Lesions of the retro-pharyngeus, bronchial and mediastinic ganglions, with no other lesions.

Fourth tuberculous subject: Pulmonary tuberculosis, tracheal, bronchial and mediastinic ganglions shewed small lesions.

Fifth tuberculous subject: Tuberculosis of the bronchial, and mediastinic ganglions only.

Sixth tuberculous subject: Tuberculosis of the mediastinic ganglions.

Seventh tuberculous subject: Pulmonary tuberculosis, and of the mediastinic, sub-maxillary, retro-pharyngeus, and parotid ganglions.

Eighth tuberculous subject: Tuberculosis of the mediastinic and bronchial ganglions only.

Ninth tuberculous subject: Tubercles in the lungs, tracheal, and mediastinic ganglions attacked.

Tenth tuberculous subject: Lesions of the bronchial, and mediastinic ganglions only.

Eleventh tuberculous subject: Same as the former.

Twelfth tuberculous subject: Pulmonary tuberculosis, lesions of the tracheal bronchial, and mediastinic ganglions.

Thirteenth tuberculous subject: Tuberculosis of the tracheal, mediastinic, and bronchial ganglions. No lesions in other tissues.

Fourteenth tuberculous subject: Same as the former.

Fifteenth tuberculous subject: Pulmonary tuberculosis, and of the tracheal ganglions.

In the same month of May 1908, 149 bovines were examined in accordance with the second proceeding explained below, the existence of tuberculosis being proved in 7 animals or say 4.89 o/o.

The carcase is placed in dorsal decubitus, immediately after being cut into two parts, in a straight line from the tracheal appendix, to the anus, the paunch, lights, midriff, and rennet, together with the pancreas and the milt are removed, the head is separated from the trunk, and put aside for the examination of its ganglions.

The following tissues are minutely examined, Retro-Pharigeus and sub-maxillary ganglions, mesenteric and intestinal ganglions, pancreas and spleen, peritoneus and parietal pleura, trachea bronchial and mediastinic ganglions, diaphragm, liver and retro-hepatic gan-

glions, sub-lumbar. iliac, and præpubian ganglions.

The results of the experiments made according to said method were as follows:

First tuberculous subject: Hypertrophy of the retro-pharyngeus ganglions, discrete lesions of the bronchial and tracheal ganglions. The lungs (minutely examined, cut up into small pieces), and the other organs, presented no lesion whatever.

Second tuberculous subject: Tubercles in the retro-pharyngeus ganglions. The other tissues minutely examined offered no lesion whatever.

Third tuberculous subject: Advanced tuberculosis of the left retro-pharyngeus, very small tubercles in one of the mesenteric ganglions.

Fourth tuberculous subject: Tuberculosis, situate exclusively in the retro-pharyngeus ganglions.

Fifth tuberculous subject: Tubercu.

losis of the retro-pharyngeus ganglions, with no other lesions.

Sixth tuberculous subject: Tuberculosis exclusively in the retro-pharyngeus ganglions.

Seventh tuberculosis subject: Tuberculous lesions localized exclusively in the retro-pharyngeus ganglions.

SUMMARY

Frequency of the lesions in 22 cases of tuberculosis:

1° Lesions of the ganglions of the head only, the majority retro-pharyngeus. seven cases, or say 31.81 o/o.

2° Lesions of the ganglionic system, only 16 cases, say 72.92 o/o.

3° Lesions of the ganglions, and lungs, 6 cases, that is to say, 27.22 o/o.

In July 1908, 2757 bovines were revised, in accordance with the first of the methods described, and tuberculosis was proved in 23 subjects, or say 0.83 o/o.

The result of this 2nd series of experiments was as follows:

First tuberculous subject: Ganglionic lesions of the thoracic, and abdominal tissues.

Second tuberculous subject: Ganglionic lesions of the tissues of the thoracic, and abdominal cavities.

Third tuberculous subject: Same as former.

Fourth tuberculous subject: Lesions of the lungs, and ganglions.

Fifth tuberculous subject: General Tuberculosis.

Sixth tuberculous subject: Lungs bronchial, and mediastinic ganglions affected.

Seventh tuberculous subject: Lungs, mediastinic, bronchial, and tracheal ganglions affected.

Eighth tuberculous subject: Tuberculosis of the bronchial, mediastinic, and tracheal ganglions. No lesion in the larynx, trachea, bronchi, lung, liver nor corresponding ganglions.

Ninth tuberculous subject: Lesions of the bronchial, and mediastinic ganglions.

Tenth tuberculous subject: Lungs, liver, and tracheal, bronchial, mediastinic, and retro-hepatic ganglions affected.

Eleventh tuberculous subject: Lesions of the bronchial, and mediastinic ganglions only.

Twelfth tuberculous subject: Tuberculosis of the bronchial, and mediastinic ganglions, as also of the lungs and liver.

Thirteenth tuberculous subject: Tuberculosis of the bronchial, and mediastinic ganglions only.

Fourteenth tuberculous subject: Same as former.

Fifteenth tuberculosis subject: Same as former.

Sixteenth tuberculous subject: Lungs, tracheal and mediastinic ganglios affected.

Seventeenth tuberculous subject: Lungs, liver, pleura, bronchial, mediastinic tracheal, and hepatic ganglions affected.

Eighteenth tuberculous subject: Lungs, liver, tracheal, and bronchial ganglios affected.

Nineteenth tuberculous subject: Tuberculosis localized in the bronchial, and mediastinic ganglios.

Twentieth tuberculous subject: Lung,

liver, and retro-pharyngeus ganglions affected.

Twenty first tuberculous subject: Lungs, tracheal, and mediastinic ganglions affected.

Twenty second tuberculous subject: Lungs, liver, peritoneus, and mediastinic ganglions affected.

Twenty third tuberculous subject: Bronchial, and mediastinic ganglions affected only.

In the same month of July and in accordance with the second method described 194 bovines were revised, tuberculosis being proved in 10 subjects say 15.5 %.

The experiments were as follows:

First tuberculous subject: Lesions in the sub-glossary ganglions only.

Second tuberculous subject: Tubercles in the retro-pharyngeus ganglions exclusively.

Third tuberculous subject: The majority of the ganglions of head presented very advanced tubercular lesions.

The sub-glossary ganglions were of the size of a child's head.

Fourth tuberculous subject: Lesions localized exclusively in the retro-pharyngeus ganglions.

Fifth tuberculous subject: Tuberculosis of the sub-pharyngeus ganglions only.

Sixth tuberculous subject: Tubercles localized in the retro-pharyngeus ganglions exclusively.

Seventh tuberculous subject: Lesions of the retro-pharyngeus, and mediastinic ganglions.

Eighth tuberculous subject: Tuberculosis of the retro-pharyngeus ganglions exclusively.

Ninth tuberculous subject: Tubercular amygdalitis, sub-maxillary, retro-pharyngeus, and bronchial ganglions shewed small tubercles.

Tenth tuberculous subject: Tuberculosis localized in the retro-pharyngeus ganglions.



SUMMARY:

Frequency of the lesions in 38 cases of tuberculosis.

1° Lesions in the ganglions of the head only (nearly in every case retro-pharyngeus), 10 cases, say 33.33 o/o.

2° Lesions of the ganglionic tissues only; 18 cases, say 54.54 o/o.

3° Pulmonary tuberculosis, and other lesions; 14 cases, say 42.42 o/o.

Having determined as has been observed, that ganglionic tuberculosis is the most frequent form, it will be convenient to enumerate the symptoms which reveal the disease, following the order of tissues for which the bacillus of Koch appears to show the greatest preference.

The pharyngeus, retro-pharyngeus, subglossary ganglions are the most commonly affected. Tuberculosis is more frequent in those ganglions than in any other tissue of the body.

When the tubercle forms, hypertrophy of the ganglion accompanies it. If the disease grows worse, breathing becomes difficult and produces a noise similar to snorting.

Considering the earliness of this tuberculous manifestations, so frequent in the retro-pharyngeus ganglions, it is necessary to be thoroughly informed of the manner of successfully exploring the said region. Our investigations on this head, were based on the system of operating of Godville.

Tuberculosis of the mediastinic ganglions generally produces chronic meteorism, and it is well known that hypertrophy of the said ganglions (the posterior ones) caused by no other disease. Meteorism is therefore a symptom which should not be passed unnoticed.

The swelling of the pre-scapular, pre-pectoral, and mammary ganglions, are other symptoms almost decisively precise.

CHAPTER V.

Forms of Diagnosis.—Insecurity of Tuberculine.—Clinical examination.—Hypodermic injections in Cows.—Their inconvenience.—The new system.

The difficulties, more imaginary than real, of diagnosing tuberculosis owing to the vagueness and feebleness of many of its symptoms, has led to the belief that it is not possible to discover the disease unless by the aid of reactions having tuberculine as a basis. For a long time owing to the popularity of the said lymph in the Argentine Republic, active professionals completely neglected the clinical examination of the subjects thought to be tuberculous. In the laboratory the diag-

nostical value of the hypodermic injection was exaggerated to a degree that it was believed to be impossible to discover the existence of the disease without that fundamental measure.

Later on when the weakness of tuberculine were recognized, professional opinion altered its course. At present investigators are searching for new formulae, with the conviction that the principal part of triumph in the struggle against tuberculosis will correspond to the systems which have for a basis early and unerring diagnosis.

In the Argentine, as in other countries, clinical diagnosis has fallen into disuse. In the inspection of milk-cows realised in the Province of Buenos Ayres, and in those the Division of Cattle realises, the veterinary surgeon goes about armed with his phial of Tuberculine, his thermometer, and syringe only, caring little for ocular examination, which by itself would have allowed him to

diagnose the disease with certainty, inasmuch as many tuberculous subjects do not react under tuberculine.

The minute examination of the palpable ganglions, such as the pharyngeus, sub-maxillary, pre-scapulary, axillary or brachial of the flanks, pre-crural and retromammary, is always of great importance. A simple swelling in those groups furnishes a fundamental basis for suspicion of tuberculosis. Descarding lesions easily confounded with actinomycosis and actinobacillosis, hypertrophy of the pharyngeus ganglions with no other symptom, gives the certitude of tuberculous lesions.

It is perceptible that palpation of the pharyngeus ganglions, is difficult, in very fat subjects, such as the bulls of our breeding establishments, or imported sires. Notwithstanding hypertrophy can be perceived in the manner indicated by Hamoir.

Chronic meteorism, above all, when

it is accompanied by emaciation, and impossibility to fatten, makes hypertrophy and tubercular invasion of the posterior mediastinic ganglions, especially presumable.

Increase in bulk; the real, painless hypertrophy of the mammary ganglions, accompanied with diffuse tumefaction of the udder, is characteristic almost always of a lesion of tubercular nature.

The presence of intermittent colic with diarrhoea is sometimes a symptom of tuberculosis of the mesenteric ganglions.

So far, respecting tuberculosis of the ganglions. As to pleuro-pulmonary tuberculosis it may be affirmed that it is the most interesting type, from the point of view of early diagnosis. If its existence is ignored, subjects with open lesions are left among the herds, and give out germs more or less virulent, according to the place where they deposit them. This form, unfortunately, manifests itself

with symptoms very variable, and difficult to submit to fixed rules which would allow of a precise diagnosis.

There are cases when enormous lesions which are not perceptible upon auscultation nor percussion, and which moreover do not reveal themselves at the spot to which they anatomically correspond. Notwithstanding, with all their apparent obscurity, such lesions are manifested by distant reflexes; by changes of habit, varied manifestations which clinically may prove decisive.

Resistance to fattening is one of the most significant symptoms in this form of tuberculosis, in spite of the fact that postmortem sometimes reveals enormous lesions in perfectly fat subjects.

The dorsal reflex, as was seen in the previous chapter, may prove to be a good means of diagnosis, in respect of lesions of the thoracic cavity. Moreover, all that has been said in the part dealing with symptomatology can be

applied, as an auxiliary in clinical diagnosis.

The proof by Tuberculine, limiting the remarks to what has been done in the Argentine, authorizes the following conclusions:

- 1°. The simple dose, the same as the double dose of Tuberculine, produces in many cases diagnostic reaction, in the tuberculous subject, before 12 hours have elapsed (1).
- 2°. Reaction under the same doses may disappear before the expiration of the 12 hours referred to, in the classical instructions generally followed
- 3°. Repeated injections of tuberculine, in simple or double doses, produce "accoutumance" in the tuberculous animals.

(1) Experiments on "accoutumance" by the Chief of the Quarantine Lazaretto, employing doses up to 50 c.c. of Tuberculine.

4° The greater the dose of tuberculine, the greater the number of tuberculous animals which react under its influence

5°. It is of positive convenience to take the temperature every two hours, from the moment of the injection.

To conclude, it has been proved in the Quarantine Lazaretto, that by the repetition of the injections, the system acquires a toleration, to such a degree, that there is no longer any reaction, or it is produced in such an irregular manner, that it is impossible to take the results into account. Such conclusions, which have also been obtained in other countries, have taken from the hypodermic injections a great part of the value ascribed to them, as indispensable diagnostical system, and have thrown light upon the frauds committed in the cow-sheds, and cattle Lazarettos.

On the other hand, the Division of Cattle has proved:

- 1°. That animals which, under post-mortem, presented no sign of Tuberculous lesion, had reacted to "Tuberculine".
- 2°. That animals attacked by other diseases, react under its influence.
- 3°. That it produces no reaction in tuberculous animals.

The present Inspector General of Veterinary Police, has been present at four post-mortems on animals which had reacted under Tuberculine in the Quarantine Lazaretto of Buenos Aires, and which presented no tuberculous lesion in any tissue.

Among the animals furnished by the Division of Cattle for the Behring experiments, three subjects which were examined post-mortem by the Comptrol Committee, shewed no sign of tuberculous lesion. Notwithstanding, these animals had reacted under Tuberculine and had after a certain lapse of time, to overcome the *accoutumance*, been "Tu-

berculined" a second time with no result.

The Director of the National Laboratory of Bacteriology, Dr. José Lignieres, has proved also the want of efficacy of tuberculine as a means of precise diagnosis,

The Inspector General of Veterinary Police, under the orders of the Division of Cattle, has carried out, conjointly with Veterinary Surgeon Caminada, comparative experiments of thermo and ophthalmo-reaction. One of the subjects dealt with, showed no reaction under the injections of Tuberculine, altho, it shown a positive ophthalmo-reaction. Post-mortem revealed in this subject, general tuberculous lesions.

During the experiments for curing tuberculosis carried out in Buenos Ayres, by Dr. Roemer, in representation of Professor Von Behring, tuberculosis was proved in animals which showed no reaction under the injections of Tuberculine.

Independantly of the weakness of Tuberculine, as a means of diagnosis, the Division of Cattle has proved other weak points, of certain importance i.e.

It frequently produces aggravation of symptoms, and above all a considerable prolongation of hyperthermia, which, during several days is as much as 40 and 41° c., accompanied with accelerated respiratory movement, to such an extent, as to become dyspnœa. In many cases, the lacteal secretion, diminishes considerably, and in some cases such diminution is maintained indefinitely in subjects which have shewn reaction.

In the rural cow-sheds of the Argentine Republic, Tuberculine always produces a perceptible diminution in the milk-yield, even in healthy animals. In uninstalled animals intended for the milk trade, Tuberculine is extremely prejudicial, as over and above the natural effects of the Tuberculine, the effects

of climate, to which the animals are subjected, the change of habits and the hardships, undergone in the operation of tuberculinization, must be considered. These ill effects have been recorded in all the rural milk establishments where thermo-reaction has been effected.

To resume: Dr. Bidart thinks that the thermo-reaction is a good means of diagnosis, but offers difficulties which make it unpracticable on a large scale, among the country-bred cattle in the Argentine. Its application is far better for diagnosing tuberculosis in stalled cattle. The ophthalmic and cuti-reaction is superior to the hypodermic injections of Tuberculine for the country. Concerning this new method, there is no need to insist, being as it is the result of investigations carried out by Calmette, Wolff, Vallée von Pirkét and successfully tried by Lignieres in the Argentine.

CHAPTER VI

Actual development of tuberculosis. Coefficient of the Cow-sheds (Tambos), of the Agricultural and Breeding Establishments. Statistics relating to the Slaughter Houses, Salting Sheds, and Frigorifics.

We shall now investigate the actual importance of bovine tuberculosis in our country, from the point of view of the "Wide spread Cattle" as well as from that of the cattle kept in stalls.

In 1889 the present Inspector of Veterinary Police, experimented upon 2300 milk-cows belonging to the General Rodriguez district, (Province of Buenos Ayres). The cases of clinical diagnosis were very rare, and thermo-reaction gave 3 % infected.

From the year 1901 to 1902 the au-

thorities of the Province of Buenos Ayres, tuberculed 7705 stalled animals, and verified the existence of 7.8 % of tuberculose subjects.

In the same period Dr. Damian Lan, Professor of the Faculty of Agronomical and Veterinary Science, at La Plata, carried out a series of experiments in the cow-sheds (tambos) of the Province of Buenos Ayres, when "Tuberculine" returned 8 % of tuberculous subjects. Simultaneously Mr. J. Lejeune applied tuberculine to 1,000 milk-cows from Mar del Plata and found that 3 % of them were tuberculous. The said Professor Lejeune tuberculines annually 80 milk-cows kept half stalled, which purvey the city of Mar del Plata with; milk and by positive reactions and by post-mortems he has proved the existence of 7 % of tuberculous subjects.

Dr. Lincoln Villanueva in the year 1901 applied tuberculine to 2,000 milk-cows in the district of Chascomús and obtained 10 % of diagnostic reactions.

Dr. José M. Moras inspected the rural cow-houses of Chivilcoy, where the proportion of certified tuberculosis reaches 4 %.

In 1908 the Inspector of Veterinary Police, tuberculed 17 cows, 1 bull, and 2 calves, belonging to a cow-house of the district of Matanzas (Province of Buenos Ayres), and only one cow, and one calf, offered diagnostic reaction.

In the same year, and by decision of the Minister of Agriculture, 2 milk-cows and 21 heifers belonging to the Experimental School of «Las Delicias» (Province of Entre Rios), were tuberculed two cows proving to be tuberculous. On the same occasion the following animals were also tuberculed:—the only two cows belonging to the School of Posadas, and which proved to be healthy:—two cows and two calves from the School of San Juan, with no result as to reaction:—80 milk-cows from the School of Bell-Ville, of which

only one shewed diagnostic reaction:— and a numerous lot of animals in the Department of Caseros (Province of Santa Fe) by the thermo-cuti-o-phthalmo reaction, only 12 subjects proving to be tuberculous.

The following figures shew the results of tuberculine in the Cow Houses of the City of Buenos Ayres;

1.897.....	Tuberculosis	23.75 %
1.898.....	»	13.18 »
1.899.....	»	16.89 »
1.900.....	»	15.76 »
1.901.....	»	11 83 »
1.902.....	»	3 03 »
1.903.....	»	1.59 »
1.904.....	»	1.78 »
1.905.....	»	18.79 »
1.906.....	»	15.90 »
1.907.....	»	19.53 »

In the first 10 months of 1908, the percentage of tuberculosis in the cow-houses of Buenos Ayres, rose to 19.53 %.

The Municipality of La Plata certified

to 8.72 %, of tuberculosis; that of Rosario, in 1907 to 13.87 %; and in 1908 to 6.34 %; that of Santa Fe in 1908, to 10 %_o. Under the auspices of the Municipality of Concordia, Dr. Lignieres tubercu-
lined 71 milk-cows of that City, and found only one to be tuberculous. The Municipality of Córdoba attested successively to 15.07 %_o in 1905, to 5.51 %_o in 1906; and to 7.19 %_o in 1907. The Municipality of Mendoza found 8.55 %_o of tuberculosis in the milk-cows of that City.

These figures, as may be observed, convey the impression that the disease has spread only to a small extent among cattle, which, by its employment, is most exposed to contagion, and still more so, if the figures are compared with those of European Statistics, which shew as much as 60 %_o as the coefficient of tuberculosis in the cow-houses.

To complete the labours carried out to investigate the degree in which tuberculosis attacks the cattle kept in stalls,

in 1906 the Minister of Agriculture Mr. Ezequiel Ramos Mexia, placed his breeding establishment of Miraflores at the disposal of Professors Bossi and Lignieres so that they might try the new method of diagnosis ophtalmo-cuti-thermo-reaction. The experimentalists operated upon pure-bred imported animals, and pure-bred pedigree cattle, in spite of this, the proportion of tuberculous animals hardly reached 1 %.

These experiments were extended to two other Breeding Establishments (Cabañas). In the first 7 imported Durham cows were tuberculined, of which one reacted. Tuberculine was applied also to 24 bulls bred under cover, of 18 to 24 months old, born in this country. None of them, shewed reaction even of 39.5° c. Five Durham bulls, pure-bred, imported, all over 8 year olds; and 5 calves and heifers, pure bred, pedigree, of 6 to 14 months old, were dealt with. One of the bulls shewed reaction, but none of the calves.

.

Continuing the experiments in another establishment, 7 Durham calves of 8 months to 1 year old, pure-bred by crossing, and intended for Cattle-Shows, were tuberculined. None shewed reaction. Finally 10 sires from the Experimental School of "Las Delicias" (Entre Rios) were tuberculined, without reaction.

Respecting the proportion in which the disease exists in tillage-cattle, the results of the experiments carried out, confirms the conclusions arrived at in Chapter 2, under the head of "Foci of Contagion".

At the National School of "Sacari-tecna" at Tucumán of the 12 oxen used there, none shewed diagnostic reaction. The 42 tillage-oxen of the Experimental School of "Las Delicias" were treated by thermo opthalgo-reaction; only two shewed diagnostic reaction. The same proceeding was applied to the 6 tillage-oxen of the Experimental School of San

Juan; to 10 oxen of the Experimental School of Colonia Benitez and to the 7 oxen belonging to the Experimental School of Posadas (Misiones). None of the animals submitted to tuberculine reacted. Ophthalmo-reaction, also gave negative results.

The number of tillage-cattle contaminated by tuberculosis in European Countries reaches enormous proportions beside which the number of cases brought to light in the Argentine is remarkably small. In the German Slaughter Houses (and the Europeans know this better than we do) tuberculosis among oxen in 1905 reached 20.37 %; and in Denmark 26.7 %.

It now remains to be seen what is the proportion of tuberculosis among cattle in general, from which the consumption of Slaughter Houses, salting sheds, and frigorifics is purveyed.

To begin with, there is a fact which is absolutely beyond questioning: — i.e. that

among calves of 6 to 12 months old, which is in general the age at which they are slaughtered in the Argentine, tuberculosis practically does not exist. From January 1898 to September 1908 of a total of 1.123.496 subjects slaughtered, only 5 cases of tuberculosis have been found.

The General Statistics of the Slaughter Houses of the Capital afford valuable evidence, as may be observed in the following extract:

1899 Slaughtered	Bullocks	137.702	Cows	128.082	Calves	110.251
do. Tuberculous	»	576	»	616	»	—
1898 Slaughtered	»	305.804	»	137.702	»	6.7664
do. Tuberculous	»	549	»	406	»	—
1900 Slaughtered	»	321.038	»	131.443	»	63.023
do. Tuberculous	»	680	»	519	»	—
1901 Slaughtered	»	336.133	»	84.902	»	102.102
do. Tuberculous	»	998	»	531	»	—
1902 Slaughtered	»	287.378	»	109.432	»	97.459
do. Tuberculous	»	624	»	454	»	—
1903 Slaughtered	»	260.501	»	139.501	»	104.565
do. Tuberculous	»	723	»	579	»	—
1904 Slaughtered	»	274.745	»	126.107	»	92.349
do. Tuberculous	»	347	»	479	»	---
1905 Slaughtered	»	270.194	»	109.803	»	94.410
do. Tuberculous	»	554	»	633	»	---
1906 Slaughtered	»	264.731	»	120.437	»	107.731
do. Tuberculous	»	837	»	724	»	---
1907 Slaughtered	»	232.240	»	146.102	»	132.864
do. Tuberculous	»	1.706	»	1.084	»	---

The Statistics for 1908 include only the nine first months of the year, and are as follows:

Slaughtered Bullocks	169,055	Cows	1,8,903	Calves	131,975
Tuberculous	»	1,122	»	5,559	»

The proportion of tuberculosis per annum during this period was:

BULLOCKS		COWS		Year	Gen. Percentage
Gen.	Local.	Gen.	Local.		
—	882	—	—	1897	0.20
343	333	298	312	1898	0.69
289	280	258	148	1899	0.17
423	257	364	155	1900	0.60
605	293	370	165	1901	0.92
475	149	384	70	1902	0.62
274	49	557	28	1903	0.53
267	80	416	63	1904	0.50
351	203	564	74	1905	0.83
300	537	521	203	1906	0.91
348	1,358	684	40	1907	1.47

The general mean average in 1908; was 2.63 o/o.

The results obtained by the Inspectors in the Capital, agree with those of the Inspectors in the interior.

At the Concordia Slaughter House, from January 1901 to March 1908, 87,779 animals were inspected, only 12 tuberculous subjects being found among such a large number.

In 1907 the Slaughter House of Villa María (Córdoba), slaughtered for the consumption of the town, 5,840 head, among which only 3 cases of tuberculosis were revealed.

Veterinary Surgeon Luis Gonsebatt found 7 cases of tuberculosis in 3547 animals inspected in the month of October 1907.

Veterinary Surgeon Carlos Robin inspected several Cattle rearing Establishments in the Province of Corrientes without being able to discover a single case of tuberculosis.

Veterinary Surgeon Godoy, has not

found a single case of tuberculosis at the Salting Establishment Of Santa Elena, from April 1902 to October 1907, altho nearly 40.000 animals por annum are slaughtered there.

Veterinary Surgeon Mezzadrelli has not found a single case of tuberculosis among the cattle dealt with, in the Salting Establishment Cabal from 1903 to 1907.

Veterinary Surgeon Ortigosa inspected 700 animals at the Santa-Adelaida Salting Establishment, no case of tuberculosis.

Veterinary Surgeon Diehl inspected 2.700 animals butchered at the Bahía Blanca Slaughter House, attesting to 3 cases of tuberculosis.

Veterinary Surgeon Troise inspected 15.000 animals slaughtered at the Gualeguay Shambles from January 1906 to March 1908 found only two cows attacked by the disease.

The Statistical Table kept at the Men-

doza Slaughter House shews the following data:

1897	mean average	3.55	per mil
1898	“	2.12	“
1899	“	1.75	“
1900	“	1.40	“
1901	“	1.75	“
1902	“	2.41	“
1903	“	3.87	“
1904	“	4.09	“
1905	“	21.54	“
1906	“	30.27	“
1907	“	20.10	“

The totals of the Statistical summary for the Frigorifics, and Saltings-sheds. from 1903 te 1908, do not differ from the totals of the general or aggregate Statistics.

The lower mean average shewn by those of the Salting-sheds in comparison with those of the Frigorifics; is due to

the fact that the first deal almost exclusively with native cattle.

The summary is as follows:

SALTING SHEDS

1903	Bullocks	181,688	Cows	20,294	Tuberculous	o/o	0.002
1904	»	212,954	»	22,731	»	»	0.005
1905	»	302,205	»	28,329	»	»	0.01
1906	»	245,103	»	39,945	»	»	0.03
1907	»	323,925	»	68,683	»	»	0.04
1908	»	245,429	»	—	»	»	0.02

FRIGORIFICS

1903	Bullocks	228,874	Cows	1,721	Tuberculous	o/o	0.29
1904	»	306,322	»	1,476	»	»	0.64
1905	»	517,086	»	3,130	»	»	1.49
1906	»	533,217	»	953	»	»	11.02
1907	»	548,545	»	10,033	»	»	1.00
1908	»	526,202	»	—	»	»	2.46

As may be observed, the proportion of tuberculosis is so small among our cattle, that there is no justifiable reason for the alarm of those at home who consume our chilled meats nor for the mistrust of the European markets.

CHAPTER VII

**Sanitary Police Service for Cattle.—
Extension of this Supplement.—The
Exportation of Tuberculous Cattle?—
Does it proceed from the Argentine?
Restrictions imposed by our Sanitary
Service.**

As we have now seen what is the mean average of tuberculosis in the Argentine, we have only to ascertain by what method the figures referred to are arrived at.

Federal Government exercises supervision over all the establishments where animal produce is prepared, when not exclusively intended for local or provincial consumption. (in which case the supervision concerns the Commune, or the Provincial Government.)

The Central Government controls the

Sanitary Services (full particular of which, will be found in the supplement), through the agency of the Division of Cattle (Ganadería), which has Veterinary Surgeons stationed at the establishments where animal produce is prepared, or where business is transacted with other provinces or territories, under federal jurisdiction. Veterinary Surgeons are personally responsible for any infringement of the law, which may be committed in the establishments confided to them. Their Scientific qualifications in the matter are ample, as in addition to the professional degree they hold from national or foreign universities, they obtain the posts of Veterinary Inspectors, by competition.

Every Frigorific, Salting-shed, Tallow Factory, Slaughter House, etc, under Federal jurisdiction, besides the staff of veterinary surgeons and assistants is provided with a laboratory, with all the instruments and necessary material

to investigate any doubtful case of lesions, difficult to class ocularly. In such cases, whilst one of the veterinary surgeons is at work in the laboratory, the remainder of the staff supervise all the processes of preparing the meat for consumption, or exportation, and put aside the diseased cattle, or tainted carcasses; declaring the same unfit for food.

From the very moment the cattle are felled and especially from the moment they are desembowelled, the veterinary surgeon is present, and ocularly, and by palpation, inspects all the organs in which the disease may be discovered. In cases of doubt, incisions are made, if the doubt subsists, the laboratory comes into play, and the carcasses are supervised, until the laboratory has decided the case.

Carcasses declared fit for food, are taken to a department called the *drying station*, where another veterinary inspector revises the general and particular state of each carcase brought in.

The carcase, parts of same, and organs which have been declared unfit for human consumption, have to be withdrawn immediately from the hangers used for meat declared fit, by the Inspectors. Our sanitary regimen does not permit such offal to be used for any other than industrial purposes, after having been sterilized by different systems of apparatus, all of which develop high temperatures.

In order to supervise this industrial use of the offal, the veterinary inspector, personally, has the carcasses withdrawn from the yards and taken to the high pressure boilers, where it is submitted to the sterilizing process. At this point the veterinary inspector must verify that the temperature in the apparatus is not less than 120° c., and through the agency of his assistants, make sure that for two hours at least, the said temperature does not diminish. Generally speaking the solid remains of carcasses, or condemned

parts of carcase are transformed into manure. The fatty matters are employed in soap making. Once the inspection is over, the official assistants in presence of the veterinary surgeon, authorize the use of the meat, stamping it with a stamp, or attaching a special control cocket to it. No carcase whatever, nor part of same can be taken to the chilling or freezing chamber, unless it bears the control seal.

Wilst the carcase are in the chilling or freezing chambers, the veterinary, surgeon periodically supervises the chambers, in order that the temperature be kept uniform, the air renewed, and the damp expelled.

These services are permanent; so it may well be asseverated that our meats are submitted to a rigorous sanitary regimen.

The presence of a carcase infected with tuberculous ganglions. brought to light in England by M. Phail, may be

explained in two ways: firstly, by the substitution of the carcase, or that the carcase was not affected with generalized tuberculosis, as was affirmed on the occasion.

Even in the supposition that the carcase referred to, came from our country, (and this point has not been proved; one must agree that the importance of the case has been exaggerated: inasmuch as in England, as well as in every other country, it is well known that there are subjects in apparent good health, which upon inspection do not offer any tuberculous lesion of the respiratory or digestive organs, nor of the ganglions nor corresponding cavities, and yet may present lesions of ganglions which appear only when the beast is quartered for market, and therefore have remained unsuspected under the most minute sanitary inspection. If the inspector were obliged to get at the ganglions referred to, the carcasses would

be useless for market or exportation, as they would be reduced to small pieces. On the other hand no slaughter house in the world refuses carcasses unless those of subjects with generalized tuberculosis.

The organization of the Inspection Service in the Argentine proves that it is absolutely impossible for a carcass infected with generalized tuberculosis, to be sent for consumption. We must reiterate if the above mentioned carcass did really come from our country, it was that of a subject with local tuberculosis. M. Pillers, Harrison, etc, and the local experiments, demonstrate how frequently the disease locates itself in the ganglions. The first of the above mentioned authors describes the case of an enormous isolated lesion, situated in the forelimb of a Shorthorn cow, altho post-mortem did not reveal any lesion in any other part of the organism.

Furthermore the danger to human

health offered by the consumption of the muscle of a tuberculous animal is extremely remote. It has never been possible to produce contagion with it, experimenting on dogs, sheep, pigs, rabbits, swine, goats etc, obliging them to ingest raw meat from animals slaughtered in the slaughter houses and withdrawn from consumption on account of tuberculosis. If that is the result obtained with raw meat, it must be agreed that human health runs no imminent risk, upon eating cooked meats, inasmuch as a temperature of 85° c safely sterilized any meat contaminated with the bacillus of Koch. Otherwise the theory of hygienists when they consider that «Pasteurization» makes milk taken from tuberculous cows fit for food would be destroyed.

Some French experimentalists go so far as to believe that meat from animals with advanced tuberculosis, not caquetic may be served to the public without danger of poisoning, nor contamination.

Germany, for her part, only demands the previous sterilization, for meat coming from animals with generalized tuberculosis.

It is evident that the Argentine Government applies a much more restrictive system. In the appendix to this work all the laws and regulations of Sanitary Police will be found.

The Sanitary Services are organized in such a manner that fraud of any kind is impossible, as far as can humanly be expected as on the other hand, neither our nor any other public service it is free from isolated cases of impropriety which do not affect the final results.

The contract with Professor Behring and the large amounts devoted by Government to improve the sanitary sale of Argentine cattle, offer a guarantee of the bonafides with which the struggle to eradicate the tuberculosis existing in the country is carried on. Such proceedings are not alone to guarantee in foreign

countries the fitness for food of our meats, and so, to avoid one of the consequences of tuberculosis, but for our own benefit, to prevent the propagation and extension of a disease which in the future more or less might expose to danger a source of national profit as great as our Cattle, one of the main-springs of public and private revenue in this country.

The Government has taken pains, and will continue to exert itself to reduce to a minimum the insignificant mean average of tuberculosis existing at the present time but, let the fact be clear that at the present moment our market beefs are perhaps the best conditional in the world.

APENDIX
OF THE
BOVINE TUBERCULOSIS

**Ordinance in connection with cow farms
and dairies in vogue in the city of
Buenos Aires. (Article concerning
the health of cattle).**

Art. 1—The proprietor of cow farms and dairies must have registered in the Sanitary Inspection and General Inspection Depts., their establishments, their names and those of their employés; the number of cows in each cow farm and the procedure of the milk which is provided.

Art. 8—The inoculation of remedy against tuberculosis of the animals whose milk is used for the alimentation of the people is compulsory and will be effected by the Sanitary Administration every time the E. D. deems such to be necessary and when that operation is practiced the value of the animal is to be agreed upon between the Sanitary Administration and the owner and the price for cows cannot be in excess of \$ 150, that for the donkeys of \$ 100 for the mares \$ 30, and of for goats.

Art. 9—The health certificate will be placed in a glass frame which will be hung on the wall of the stable in front of the animal.

Art. 10—The owners of cow farms cannot retire those animals which are undergoing the test of the inoculation nor those which are reactioning from the inoculation are considered tuberculosis.

Art. 11—The Sanitary Administration can sacrifice in the slaughter house all those animals which the inoculating operation proves to be tuberculosis.

Art. 12—The introduction substitution or retiral of animals in the cow farms cannot be effected without previous advice having been given to the Sanitary Administration subject to the infliction of a fine of \$ 100 and removal of the animal should it prove to be diseased.

Art. 13—For the effects of the aforesaid article it will be considered that the proprietor of the animal is the owner or principal tenant of the cow farm where the animal is kept.

Art. 14—The E. D. will pay the following indemnizations to the owners of animals for those which are sacrifices in the slaughter house in conformity with the prescriptions of the regulation.

For the animal which is suffering from generalized tuberculosis one third part of the value fixed.

For the animal which suffers from localized tuberculosis two third parts of the fixed value.

The serviceable parts of the animals will be deducted from the said indemnizations in accordance with the sanitary regulations.



*Ordinance in force in the city of Rosario for the
health of cows in farms*

Inoculation remedy against tuberculosis. Art. 32
The inoculation of remedy against tuberculosis, is declared compulsory, of all the animals of the bovine species lodged in farms when those are over six months old.

Art. 33—The inoculations will be performed by one or more Veterinary Surgeons and under the direction or vigilance of the Public Assistance (1).

Art. 34—The inoculations of the animals of cow farms or dairies can only be performed by the employes referred to in the previous article. Those persons as for instance the owners of animals who infringe this stipulation incur a fine of 20 to \$ 100 paper for each inoculation.

Conditions which animals should unite. The

animals which are introduced at farms and which after having been treated and the necessary time has transpired are declared suspected of being tuberculosis shall be marked on the front by fire with a T 10 centimetres in size and they are to be removed within the period expressed in the previous article and subject to the same fine.

Art. 36—If the existence of the animal be dangerous it may be sacrificed but the owner will previously have received an indemnization to the extent which the E. D. will express.

Art. 37—Advice must be given to the Public Assistance at the least within 24 hours of the introduction or substitution of animals at the farms so as to enable the inoculation to be performed of the fresh set of animals. Those who infringe that condition incur a fine of 20 to \$ 100 paper for each animal.

Recognition of cattle. Art. 38—The persons who are not owners of farms in or outside of the district who desire bovine animals to be recognized can request the Intendant's Dept. to have the inoculation of remedy against tuberculosis performed.

Dairies which may adhere to the regulation. Art. 39—The E. D. will endeavour to obtain from the Health Council the application of this present ordinance for the dairies situated outside the boundaries of the district and will furnish said

Council with the necessary staff and elements for effecting the inoculations.

Art. 40—The E. P. will publish monthly the name of the dairies, to which the previous article has reference, in which there are animals not inoculated.

The inoculations.—Art. 41 — Said inoculations will be repeated once á year in conformity with the scientific customs established for the purpose.

Quality of the remedy. Art. 42—The inoculation remedy which is employed shall be of genuine quality of the authorized european laboratories, Pasteur o Koch if such is not supplied by any of the laboratories which exist in the country.

Reactions. Art. 43—The animals considered tuberculosis will be those which the inoculation test shows to have a febrile reaction whose temperature is in excess of (1.5) one degree five centigrades and consequently they will be marked with a T in accordance with Art. 35.

Suspected of being tuberculosis. Art. 44—The animals considered suspected of being tuberculosis will be those whose febrile reaction is shown to be in excess of 0.8 or inferior to 1.5 degrees centigrades of temperature.

Art. 45.—The animals suspected of being tuberculosis will be retired from service and will remain isolated under the vigilance of the Municipal Sa-

nitary Inspector who will again inoculate the herd one month from the date of the first injection.

Cases for sequestration. Art. 46—The cows which according to the judgement of the Sanitary Inspector have been proved by the inoculation test to be in an advanced state of tuberculosis will be sequestrated as also those which at the clinic examination present symptoms of tuberculosis of the lungs or (de mamitis tuberculosis).

Art. 47—In the case of the preceeding article and when the autopsy proves that the animal presents evident signs of being tuberculosis the E. P. will pay to the owner the half of the value of the animal sacrificed which will be estimated according to the current market prices. In the contrary case the Intendant's Dept. will pay the full value of the animal i. e. when it has not been proved that the animal is diseased.

Health certificate. Art. 48.—For the animals accepted as healthy the Municipal Inspector will give a certificate of health mentioning the hair, the age, breed or other special characteristics of the animal and furthermore will place on one of the horns or in defect of such on an ear a mark by fire I. S. without which no milk cow can remain in cow farms of the district.

Said certificates will be drawn up on a stamped paper of a value of \$ 2.

Disinfection of the cow farms. In the cow farms where tuberculosis animals are found the owner is compelled after the animals have been removed to perform the general disinfection of the dairy and with special care the boxes which were occupied by the diseased animal under the prescriptions and vigilance of the Municipal Sanitary Inspector.

Substitution of the animals. Art. 50.—The introduction or substitution of animals at the cow farms cannot be effected unless previous advice has been given to the Sanitary Inspection in accordance with the conditions of Article 37.

Art. 51.—The Inspection Dept. will have a book in which the situation of the farm will be entered, the name of the owner the number of cows and specifying the colour and mark as also the inoculations performed at those and the corresponding observations in each case.

Observation stand. Art. 52.—Establishing at the new Yards of the Public Works a stand where the inoculation shall be performed of all the bovine animals which are introduced in the district which are to be lodged in cow farms.

Art. 53.—It is expressly prohibited for bovine animal, to remain at cow farms when they have not previously been inoculated and observed in the manner established by the preceeding article.

Rights. Art. 54.—For each animal whilst under

observation at the Municipal stand \$ 1 paper is to be paid daily for its forage and maintenance.

Fines. Art. 55—Those who infringe the prescriptions of this resolution will be inflicted with a fine of twenty dollars paper in each case.

Arts 1 to. 10. 12 to. 28. Ordinance of 21st September 1888

Arts. 11 and 29 Decree of the Intendant's Dept 6th February 1900

Arts. 30 and 31 idem 17th August 1900.

Arts. 32 to 39 Ordinance 9th November 1897

DECREE No. 1115

Córdoba, July 28th 1905

In order to regulate the ordinance No. 1087 taking as a basis the scheme presented by the direction of the Public Assistance and owing to the fact that same only implies the modification of one of the article of ordinance No. 559 whose disposition cannot be altered by the E. D., the Municipal Intendant.

DECREE

Art. 1—That the Direction of the Public Assistance shall have the technical inspector of cow farms effect the testing of the inoculation of all the cows in the cow farms and dairies of the dis-

trict and of those which are used for supplying-milk throughout the streets in the city.

Art. 2—The inoculation remedy which is employed will come from the proper quarters of the european laboratories Pasteur or Kock brand being authorized whilst laboratories of this country do not supply of identical quality.

Art. 3—The inoculation of the cows against tuberculosis will be practiced in the cow farms proper where they are lodged.

Art. 4—The cows suffering from tuberculosis will be definitely withdrawn from the services this present decree regulates marking them by fire on the horns or ears and in defect of this with letter T: those suspected of being so after the second test made will also be so withdrawn.

Art. 5—The cows whose febrile reaction varies between 8 tenths and one degree 4 tenth will be considered tuberculosis. The temperature reaching an inferior graduation to 8 tenths will not have any meaning.

Art. 6—The veterinary surgeon will repeat the inoculation test on those cows whose reaction appears suspicious 45 days within the time that the first operation was carried out.

Art. 7—The milk cows which are declared exempt from tuberculosis and from other diseases will have placed on their horns or in defect of these

on the ear a mark by fire I. S. furnishing a gratuitous certificate to the owners signed by the veterinary surgeon and expressing: the breed, age, colour, and distinctive marks of the animal, situation of the cow farm where the animal is lodged and name of the owner.

Art. 8—For the effects of the aforesaid article, the veterinary surgeon will keep a register of the cow farms and dairies which exist in the district giving an account therein of the specifications provided for in the previous article and furthermore the number of cows authorized for each of said establishments.

Art. 9—The test with the inoculation remedy will be effected in conformity with the scientific custom established for that purpose and same will be repeated yearly.

Art. 10—Every owner of a cow farm or dairy is compelled to denounce to the Direction of the Sanitary Administration all the diseases which his cows suffer within a term which does not exceed 24 hours.

Art. 11—The entrance of a fresh set of cows in cow farms and dairies is absolutely prohibited unless previous advice thereof has been given to the sanitary administration or if such have not been previously submitted to an inoculation test.

Art. 12—The Accountant's Dept. will keep a

special account of the reception and output of funds which occur in consequence of ordinance No. 1087 effecting the expenses temporarily if necessary of the general income, charging same ordinance in question.

Art. 13—The collection of the taxes provided for by Art. 3 of § 1 for each animal inoculated will be effected by the veterinary inspector who will keep a memorandum book having a counterfoil furnished by the Treasurer's office and each page will be for the value of \$ 1 and the employé referred to shall be subject to the reglamentary prescriptions.

Art. 14—The treasurer's office will note in the (*libro diario*) as a special entry the amount, which is received there of the taxes on the inoculation operation.

Art. 15—Every transgressor of the prescriptions will incur a fine of fifty dollars on the first occasion which will be double in case of a repetition, without prejudice to closing the establishments and of twenty five dollars those who introduce animals in the cow farm or dairies without previously obtaining the authorization of the sanitary direction.

*

* *

The Deliberating Council of the Municipality of Concordia sanctions the following:

ORDINANCE

The inoculation of remedy against tuberculosis is declared compulsory for the milk cows which are employed for industrial purposes within the district.

Art. 2—The injections of the inoculation remedy can only be effected by the Veterinary Surgeon who has his title inscribed in the Hygiene Council of the Province.

Art. 3—The injections of the inoculation remedy are to be renewed every day and the test is to be repeated every time this may be deemed necessary.

Art. 4—The certificates of each cow with a complete statement of distinctive marks of the animal are to be hung on the wall over the animal and in a visible place for the convenience of the public.

Art. 5—These certificates must have the Vo. Bo. of the Municipal Inspection interested and be inscribed with the numeration in the book "Register of cows inoculated against tuberculosis".

Art. 6—The Municipality will appoint the Veterinary Surgeons who are to effect the inoculation and to be returned by them within 24 hours of performing the operation will distribute partial pages of the "Register of cows inoculated against

tuberculosis" in order to enable proper and uniform statistics being kept.

Art. 7—The owners of animals must give advice with 24 hours anticipation to the Municipal Inspection of the entrance of cows at a cow farm and to the Veterinary Surgeon who is the interested party to effect the inoculation.

Art. 8—Once the operation has been concluded the owners of animals will present themselves at the Municipal Inspection with the corresponding certificates so as to have them inscribed in conformity with stipulations of Art. 5.

Art. 9—In the same manner they will present at the Municipal Inspection or notify when any cow is withdrawn the corresponding certificate to be entered in the "Register of cows inoculated against tuberculosis" returning such with the anotation "without effect" and the date.

Art. 10—Every cow declared "tuberculosis" will be marked with a T on its front and the owner should immediately isolate the animal and remove it from the district within 24 hours.

Art. 11—When tuberculosis cows are discovered the locality will be disinfected in compliance with the indications resolved by the Board of Health.

Art. 12—Should the reaction according to the diagnostic designate the existence of animals *suspected* of being tuberculosis these may remain un-

der observation in the establishments without being marked and a fresh inoculation should be performed after 60 days from the date of the first operation.

Art. 13—The introduction of milk will not be allowed from the vicinity and exterior of the district when it has not been proved that the regulations of this ordinance have been fulfilled.

Art. 14—Every infringement of the stipulations contained in this ordinance will be punished with a fine of fifty dollars on the first occasion double should the offence be repeated and definite closing up of the establishment on a third occasion.

Art. 15—The E. D. will regulate this ordinance fixing the remuneration to which the Municipal Veterinary will be entitled when the operation has been performed by said party.

Art. 16—This present ordinance will be in force as from the 1st of January 1907 on which date all the cows used for providing milk are to have undergone the inoculation against tuberculosis.

Art. 17—Cancelling of all the stipulations which are in opposition to this present ordinance.

Art. 18—Notify etc.

Session Hall, July 23rd 1906. sgd).

Domingo L. Maroto, president; Juan J. López, secretary.

No. 2466—Concordia 31st of July 1906.

Be this a Municipal ordinance, give knowledge hereof, publish and pass to the M. R.

Sgd) Juan Salduna, president; Aurelio S. García, secretary.

No. 2605—Concordia 26th of October 1907.

Regulating this present ordinance the President of the Municipality of Concordia.

*

* *

DECREES

Art. 1—Grating of a period up to 31st of December within which period the cow farms are to give compliance to this ordinance.

Art. 2—The Veterinary Surgeons who perform the injections of the inoculation against tuberculosis are to present their diplomas to enable the Municipal Inspection to investigate if they meet the requirements ordered by Art. 2.

Art. 3—Every year the injections of inoculation remedy against tuberculosis are to be renewed on those animals which are kept in stables permanently and on others when this is deemed necessary.

Art. 4—The certificates of each cow as a guide will carry the following information, breed, age, colour of hair, mark, sign, marks and signs existing

on the horns and any other distinctive characteristics which may be useful for identification.

The certificates which have the Vo. Bo. of the Municipal Inspection and which are to be stamped and signed will have a consecutive number for each cow farm. ?

Account will be kept of the partial pages delivered to the Veterinaries which will be returned by them, signed, and those will be filed at the Inspection Dept.

Art. 7—The other owners of cow farms will inform the Inspection Dept. of the cows which are again entered so that Inspection may know the number of cows existing at the farm and have knowledge of those which are not inoculated to avoid incurring the infringements against the stipulations provided for by this ordinance.

Art. 8—So soon as the operation has been performed the owners of animals will present at the Inspection the certificates issued by the Veterinary so that they may be inspected in conformity with the indications of art. 5.

Art. 9—All the *tuberculosis* cows will be marked with a T on the front of 8x6 centimetres and will be removed from within the district and the use of these animals for providing milk will not be allowed.

Art. 10—The disinfection of the cow farms will

be performed for account of the propietor by the means which the Municipality will indicate and the Inspection will witness of this operation.

Art. 11—If the animals which are declared *suspicious* are not inoculated within the period established by Art. 12 such will be considered as having that disease and will be marked and removed from within the district.

Art. 12—The Municipality can inspect when it may deem it convenient do so so the cow farms of the exterior of the district which have had their cows inoculated prohibiting the introduction of milk when all the cows are not inoculated or when there are animals in the farm which have been refused as being tuberculosis and in this case can furthermore apply the penalties provided for by Art. 14

Art. 13—The Municipal Veterinary can receive \$ 1.20 for each cow he has inoculate within the city plant and \$ 1.50 paper for those outvside of that limit.

Art. 14—Notify etc. Sgd) Germán Vidal. president; Aurelio S. García, secretary.

*

* *

No. 2625—Concordia, 26 th of December 1907.

In consideration of the information given by the

Municipal veterinary regarding the new system of proving tuberculosis of the bovine animals by means of opthalmic reaction and cuti dermo reaction and as, according to the data supplied, the new method is of more easy application and allows of tuberculosis being discovered more readily. The President of the Municipality of Concordia

DECREES

Ophthalmic and cuti reaction

Art. 1—That is declared compulsory as from this date within the boundaries of the district, for the cows which are use for providing milk.

Art. 2—This operation will be effected in accordance with ordinance of 23 of July of the current year and with its regulation in this connection.

Art. 3—The injections of the inoculation remedy will be performed whenever there may be doubts as to the result of the opthalmic and cuti reaction.

Art. 4—The Municipality will provide the means and utensils for the performance of the operation within the city plant.

Art. 5—Its application will be gratuitous.

Art. 6—The farms outside of the city plant will

pay the expenses of conveyance of the employé who performs the operation.

Art. 7—Let this be known, publish and pass to the M. R. — Sgd) Germand Vidal, presidente; Aurelio S. García, secretary.

Arts. 40 to 51 Decree of the Intendant's Dept. 29 Sept. 1897.

Arts. 5w to 55 Resolution of the Intendant's Dept. 27 th Ict. 1898.

ORDINANCE

*Inoculation against tuberlosis of the cows wich
yield milk for consumption by the city. The
Municipality of Villa Maria at a meeting held.*

ORDER

Art. 1—During the month of February an inventory will be effected of the cows which yield milk for the city.

Art. 2—When the number of them is known the inoculation against tuberculosis of these in parts will be effected at the premises designated for the purposes where they must be three days previous so as to be under observation.

Art. 3—It is the obligation of the owners of cow farms to supply the labourers which the Veterinary Surgeon may request for handling the animals.

Art. 4—The Municipality will furnish ten numbers to mark with tar and two to be marked by fire, one with the letter T which will signify “tuberculosis” and the other with the letter L which will “free”.

Art. 5—The cows declared tuberculosis will be sacrificed in the Public Slaughter House and the sale of meat will be allowed at the Market of those animals recognised as fit for consumption.

Art. 6—The cows with generalized tuberculosis will be destroyed by fire.

Art. 7—The cows declared to be suspected of being tuberculosis will be isolated and the cost of upkee will be on the owners account.

Art. 8—The Municipal Inspector accompanied by the Veterinary Surgeon will periodically inspect the cow farms and the owners are compelled to state when they acquire or sell cows the establishment they proceed from or to whom they have been sold.

Art. 9—Intendant's Dept. will have a special book in which will be written the name of the owner of the cow farm number of cows, date of inoculation against tuberculosis and state of health.

Art. 10—The cows during the three days they are under observation, will be milked and the milk may

be sold for consumption and in the following days they will again be milked and the milk confiscated until the Veterinay Surgeon declares in free.

Art. 11—The yield of milk for consumption by the population is prohibited of those cows which have not been inoculated against tuberculosis subject to the infliction of the fines mentioned in Art. 18.

Art. 12—The Municipality will pay indemnization of alue of any animal whose sacrifice has been ordered by it as a sanitary measure should such prove to be healthy.

Art. 13—The owners who have not complied with the provisions of this ordinance and any of the instructions which may be dictated for its application shall not have the right to elaim indemnization for the damages which the sanitary measures adopted may have caused them.

Art. 14—The object of the indemnization will always be to reward the damages caused at the moment of the destruction or sacrifice, the parts which are serviceable for the propietor are to be deducted from the total value of the animal.

Art. 15—The value of the animals will be estimated by the Intendant and the owner or his representative in a case of disagreement as to the price shall name an umpire whose judgement will be final.

Art. 16—When the disease of the animal sacrificed is necessarily mortal according to the Veterinary Surgeon's opinion there will be no right to a claim for indemnization.

Art. 17—For the effects of this present ordinance grant power to the Intendant to invest up to the amount of two hundred dollars paper for the acquisition of the inoculation remedy to be used as also for other indispensable expenditure.

Art. 18—The infractors of the provisions of this ordinance will pay a fine of 25 dollars paper on the first occasion, 50 on the second and in the event of a repetition of the offence the Intendant's Dept. will order the closing of the cow farm.

Art. 19—Notify the Intendant so as ensure proper compliance hereof.

Granted in the Session Hall of the Honorable Deliberating Council on the fourteenth day of the month of February in the year one thousand nine hundred and seven.

Sgd.)	<i>P. Rodriguez,</i>	<i>Fco. Seco,</i>
	Secretary	President.

Comply, publish and have filed,

Villa Maria, 18th February, 1907.

<i>Angel Villasuso,</i>	<i>F. Poretti,</i>
Secretary.	Intendant.

DECREE

Appointing the Committee to control the working and results of the experience

B. Aires, 17th January 1907.

The contract entered into between Professor José Lignieres in representation of the Superior Government and Professor von Behring for his own account having been approved for the testing in the country of his method of curing Bovine Tuberculosis and that of preventive immunity against said disease for which in representation of Doctor Behring his assistant is to come to this country and as it is convenient to study the proceed to be followed and to have a knowledge of the results which are obtained.

The President of the Republic

DECREES

Art. 1 — Appointment of Messrs Doctor Eliseo Canton, Senior of the Faculty of Medical Science, Doctor Carlos Malbran President of the National

Health Dept.—Doctor José Penna, Director of the Public Assistance—Doctor José R. Semprun, Director of the Alms Asylum—Doctor Pedro N. Arata, Director of the Theory of Agriculture and Veterinary Superior School and of the Chemical Office, Doctor Julio Mendez ex Professor of the Faculty of Medical Science—Doctor Fermín Rodríguez (son), Director of the Villa Maria Sanatory—Profesor José Lignieres, Director of the National Bacteriological Institute—Veterinary Surgeon, Ramón Bidart. General Inspector of the Sanitary Police for Animals in order that constituting a Committee it shall follow the process employed by Doctor Romer and supply information to the E. P. as to the results.

Art. 2 — The Animal Division will provide the Committee referred to in article 1, whenever such makes a request, with all the elements at its disposal for the better fulfilment of its duty.

Art. 3 — Notify, publish and pass the National Registry.

Sgd.) Figueroa Alcorta.—E. Ramos Mexia.

As it was not possible for Doctor Julio Mendez to form part of the Committee as his substitute the Government designated Doctor Desiderio Davel who has just arrived in the country and who during a year had worked with Professors Behring and Romer in their Laboratory at Marburg.

**Ministry of Public Works of the Province
of Buenos Aires**

GENERAL DIRECTION OF PUBLIC WORKS

SECTION 7^a. (Veterinary)

ORDINANCE

**RENDERING COMPULSORY THE INOCULATION AGAINST
TUBERCULOSIS OF COWS**

Art. 1—The inoculation of remedy against tuberculosis of cows of cow farms, dairies and cheese stores, is declared compulsory and of those which go through the streets with the purpose of providing milk for the public.

Art. 2—The General Direction of Public Health will fix the periods within which the inoculation operation is to be performed bearing in mind the necessities and requirements for the service of each locality.

Art. 3—The injections can only be effected by

Veterinary Surgeons and the Health Dept. may order the means of control to be adopted which it may deem necessary with the purpose of shielding the form in which the operation is performed.

Art. 4—The animals which are proved to be tuberculosis will be marked with a T on their front and immediate advice will be given to the respective Municipality so that it may be enabled to have the animals removed immediately from the establishment.

The healthy animals will have the following mark placed on their horns "S" and a certificate will be issued to the owner with a complete statement of the special characteristics of the Animal. The compliance with these conditions appertains to the Veterinary Surgeon who performs the inoculating operation.

Art. 5—The General Direction of Health may issue the inoculation remedy which is prepared in its laboratories but only to the Pharmacies or to the Veterinary Surgeon and at its cost price.

Art. 6—The results given in each cow farm of the inoculation against tuberculosis operation will be transmitted minutely to the Municipal Intendant's Dept. of the district by the Veterinary Surgeon within the following five days to that on which the operation was performed.

Art. 7—It is not allowed that there shall exist at

cow farms, dairies, etc., situated in the territory of the Province milk cows marked with a T on their foreheads.

The infringement in this case will be punished by the infliction of a fine of fifty (50) dollars on the first occasion double in the event of a repetition and the closing of the establishment can be ordered in this last instance until such time as the removal of the tuberculosis cows is effected.

Art. 8—If the diagnostic of the reaction shows that there are animals suspected of being tuberculosis such will be removed from the farm without being marked and a fresh inoculation against tuberculosis is to be performed when 45 days have transpired from the date of the previous operation.

Art. 9—The owners of cow farms, dairies, etc. will give advice to the Municipal Intendant of the district with anticipation of the date when the inoculation of their animals is to be performed and will state the name of the veterinary who is to execute said operation.

Art. 10—Those who infringe the regulations contained in this ordinance for whom no penalty has been specially mentioned will suffer a fine of 40 to 100 dollars on the first occasion and double in the case of a repetition.

Art. 11—The General Direction of Public Health will apply the penalty regulations of this Ordinance

carrying it into effect through the behalf of the corresponding Court of Justice.

Sgd) A. Arce Peñalva, General Director of the Health Dept.; A. V. Espinosa, secretary.

La Plata, December 16th 1899.

In conformity with what the Government Assesor has dictated the Executive Power.

RESOLVES

The approval of the Ordinance scheme dictated by the General Direction of Public Health and rendering compulsory the inoculation against tuberculosis of milk cows in the territory of the Province.

Notify, publish and insert in the O. R. —Bernardo de Irigoyen, Adolfo Saldías.

ADDITIONAL REGULATIONS

La Plata, 27th May 1901.

The General Direction of Public Health having drawn up, in accordance with indications of the decree of 28th of February of the current year, the

regulation scheme to which the inoculation against tuberculosis of the bovine cattle in the Province is to adhere and in connection with the requirements to be filled by the persons who perform that operation, the E. P. bearing in mind that the regulations which the scheme in question contains tend not only to prevent the repetition of the abuses which have been committed with prejudice to the animal industry but that they will complement the ordinances which affect the matter approved on the 11 of January 1898, December 16th 1899 and resolution of the 20th of the current month, resolves :

Art. 1—The injections of the remedy which are not performed by veterinaries having their diplomas or authorized by the General Direction of Public Health will be considered not valid and without any effect whatever and a new inoculation against tuberculosis is to be performed in the manner determined by the respective ordinance.

Art. 2—If when effecting the inspection visits which are to be practiced by the technical staff of the General Direction it is proved that the injections of remedy have not been performed according to the principles established by science, even in the event of the operation having been executed by the veterinaries having their diplomas will also be considered without validity and those parties who have incurred the omission in the exercise of their professio-

nal duties may be suspended by the sanitary authorities for a period not exceeding six months.

Art. 3—The General Direction of Public Health may authorize the students of the upper classes of the Veterinary Faculty to perform the inoculation of the remedy against tuberculosis they are not entitled to charge a fee of more than one dollar paper for each animal they inoculate.

Art. 4—The owners of cow farms, dairies, etc. can have their animals inoculated by any veterinary surgeon if such possesses his respective diploma or if he is legally authorized by the General Direction of Public Health, but always within the period previously established by the sanitary authorities and in conformity with the respective ordinance.

Art. 5—When the interested parties cannot agree with the veterinary surgeon as to the charge of fees for the execution of the inoculation they may apply in writing to the Health Dept. which will proceed in accordance with the law of its creation to effect the corresponding regulation regarding the basis for the price as established by Art. 3.

Art. 6—The General Direction of Public Health will distribute to the Municipalities of the districts where the inoculations are to be effected and which are to be returned printed sheets on which will be given that information which is considered necessary and furthermore the most scientific treatment

will be thereon recommended so that their shall be a uniform service and in order that their respective office may keep thorough statistics of the operation.

Art. 7—Pass the information to the General Direction of Public Health for its knowledge and so as to enable same to be placed on the file D. number 156 of the year 1897, notify the Municipalities, publish and insert in the O. R.—Sgd). Irigoyen, Adolfo Saldías.

REGULATIONS OF THE VETERINARY INSPECTION
TECHNICAL STAFF

Art. 1—The technical staff is composed of one Director and four Veterinary Surgeons.

a) of the Director. „ , ,

Art. 2—The appointment as director will be granted to a veterinary surgeon whose diploma has been furnished by the Theory of Agriculture and Veterinary Faculty of La Plata or by the Theory of Agriculture and Veterinary Superior Institute of Buenos Aires or whose title has been ratified by a higher faculty.

Art. 3—The director is responsible to the Superiority for the working of the Veterinary Section and he is to see that the regulations are strictly complied

with, the ordinances and resolutions concerning the services attached to such.

Art. 4—He is to be the Superiority's assessor in matters of a veterinary nature, as for instance, hygienic measures, police sanitary measures, etc., and will propose the modifications of the regulations and ordinances in force or the sanctioning or other new ones.

Art. 5—The Director must furthermore.

1—Effect frequent inspections at the Abasto Municipal slaughter houses at those of Tolosa at the markets and butcher shops and at the places which despatch preserved meats, etc.

2—Control the inoculation against tuberculosis in particular and the veterinary inspections in general.

3—Supply to the Superiority a monthly statement giving account of the movement there has been in the section and of what has been accomplished.

4—Provide a half yearly statement in the same form as that mentioned in the preceeding article and in which is to be shown in a synoptical form the percentage of microbial and parasitical diseases of the animals of butcher stores.

b) of the Veterinary Surgeons.

Art. 6—The enganements as municipal veterinary surgeons will be performed by veterinary surgeons whose diploma has been issued by the Theory of Agriculture and Veterinary Faculty of La Plata or

by the Theory of Agriculture and Veterinary Institute of Buenos Aires or whose title has been ratified by a higher Faculty.

Art. 7—The veterinary surgeons are under the direct control of the Direction and therefore, in the event of denouncements made, reports, supplying or modifying schemes, etc., they are to furnish those to the Director who, if he deems it convenient, will pass such to the Superiority.

Art. 8—It is to be their duty to control the strict compliance with the regulations, ordinances and resolutions of the Superiority.

Art. 9—They also must:

1—Properly execute the technical works which have been designated for then each month and which are performed by turns having as a basis the equitable distribution of the service.

2—Provide the Direction with a detailed daily statement in connection with the inspections effected and the news of the day.

3—Be at the office in the afternoons to receive instructions.

Art. 10—In the cases of private or official denouncements of diseased animals when it is considered that infermities are contagious, or of animals which have died in the streets at the yards of the cleaning administration, camps, farms stables, etc., any veterinary is to present himself who is disposable who

at the moment is not engaged on service which is performed by turns and will adopt the measures which may be deemed advisable.

Art. 11—In the cases specified by the preceeding article the denouncement may be accepted by the Director or any of the veterinaries of the Section and it will be the duty of the Administrator of the cleaning yards when the animals referred to belong to the Municipality, to issue severe instructions to the effect that nobody is to tamper with the suspected diseased animals in any shape or form nor with the carcasses and immediate advice is to be given to the Veterinary Inspection.

c) of the practitioners.

Art. 12—These will be under the control of the Director who will inform them what works are to be performed.

Art. 13—The practitioners who are appointed in future when possible are to be students of the third or fourth years in veterinary medicine and preference will be given to those of the fourth who have the best average in the classifications of the three years coursed.

d) of the amanuensis

Art. 14—The amanuensis will be engaged for the copying of reports for the files, statements, resolutions, etc. and he will be in the office of the veterinary inspection and his office hours will be those which are in force for the other Municipal offices.

Distribution of the Veterinary service

Art. 15—The veterinary service will be apportioned in the following manner.

I—Inspections, before and after the slaughtering, of the animals which are sacrificed in the Abasto Municipal slaughtering houses trichinous examination of pork. inspection of the markets, butcher shops, cow farms, milk cows in transit and places which despatch preserved meat within the perimenter of the first circunscription. Inspection of carts and wagons destined for the transport of meat such being applicable for birds and fish.

II—Inspection. before and after the slaughtering of the animals which are sacrificed in the private slaughtering houses of Tolosa. Trichinous examination of pork, butcher shops cow farms milk cows in transit within the perimeter of the second circunscription. Inspection of the carts which transport the meat such being applicable for birds and fish.

III—Inoculation against tuberculosis of the milk cows of cow farms and of the cows in transit which provide the population with milk. Inspection of the markets butcher shops cow farms milk cows in transit and places which despatch preserved meat within the perimeters of the third and fourth circunscriptions inspection and treatment of the animales belonging to the Municipality and inspection of birds and fish.

IV—Thichinous examination of pork which is taken to the Yards of the Administration of Cleaning and the Ensenada Municipal Inspection locality. Inspections of the markets, butcher shops, cow farms, milk cows in transit and ploces which despatch preserved meat, within the perimeter of the animals belonging to the municipality and inspection of birds and fish.

V—Inoculation against tuberculosis of milk cows and of those in transit which provide milk to the population. Inspection of the markets, cow farms, milk cows in transit, butcher shops and places which despatch preserved meat within the perimeters of the sixth and seventh circumscription. Inspection of the birds and fish and of the horses of the tramway companies and funeral coaches.

Of the inoculation against tuberculosis

Art. 16—The inoculation of the milk cows will be performed by the veterinary surgeons, employes of the Inspection and the Director of same.

Art. 17—Any veterinary surgeon having his diploma may effect said operation whenever he gives advice thereof to the Municipal Authorities with three days anticipation.

Art. 18—In such cases a municipal veterinary expressly designated or the Director himself will control the inoculation.

Art. 19—The particular municipal veterinary who performs the inoculation of the milk cows which supply the population must furnish the Direction with a statement every two days supplying information as to the number of animals inoculated, those tuberculosis and as to those suspected of being so.

Art. 20.—The frauds committed to pall the properties diagnostics of the inoculation remedy will be punished by the closing of the cow farms during one year.

Art. 21—The animals which do not favourably overthrow the effects of the inoculation remedy will be marked by fire on their horns with an S which will mean “healthy”.

Art. 22—Those which prove to be tuberculosis will be marked with a T which will signify “Tuberculosis” and those suspected of being tuberculosis will be marked with some chemical substance and with a conventional sign, later the inoculation of said animals will be performed.

Art. 23—In the cases in question mentioned in the preceeding article the cows will be removed from the cow farms and the sale of milk which they yield will be absolutely prohibited.

Art. 24—Granting of a period of ninety days which will be counted from the date of the approval of this regulation for performing the inoculation of the milk cows existing in the district or of any others whose milk is imported at this distreict.

Art. 25—The period in question having expired the yield of milk by the cows not inoculated will be absolutely prohibited proceeding later to close the cow farm.

Art. 26—Should it be proved by the municipal inspections that milk has been sold of cows which have not been inoculated a fine will be inflicted of twenty dollars paper on the first occasion and of fifty dollars on the second.

Art. 27—The inoculation of milk cows will be renewed yearly.

Of the protests against the resolutions of the technical staff

Art. 28—The suppliers or any other interested parties may appeal to the judgement of a veterinary surgeon having his diploma, against the resolutions of the technical staff in which case they will give immediate advice to the Superiority naming the person who has been appointed for the purpose.

Art. 29—In common accord between the technical staff and the appointed and accepted expert the place and precise hour will be fixed for the examination by the experts.

Art. 30—What has been provided for by articles 28 and 29 is to be accomplished within 24 hours after which the right to appeal will have become abolished.

Art 31—Should there be disagreement between the veterinary on service and the expert they will name an umpire whose sentence shall be definite and not admit of appeal.

Art. 32—Suppress art. 10, clause 3 of art. 11 and art. 17 of the Regulation of the Abasto Yards and modify clause 6 of art 42 in this sense: it is prohibited to tamper with the animals.

La Plata, 19th March 1908

Approve the scheme of Reglamentation of the Veterinary Inspection, added, of which two hundred and fifty copies will be printed and insert in the M. R. etc., etc.—Sgd. Alfredo C Paz, Ulises Villalobos.

*Ordinance founding the "Institute of observation
for the milk cows"*

Art. 1.—Founding. with the name of "Institute of observation for milk cows" a special establishment destined for the isolation observation and vaccinating of said animals with the object of handling them in conformity with the ordinance in force should they be affected by tuberculosis or be infected by other diseases and giving them exemption should this practice be of efficient results.

Art. 2—For the effects of the preceeding article, the sum of fifty thousand dollars paper is destined from the Gral. income for installing and providing in the Theory of Agriculture and Veterinary Institute, the establishments referred to with all its dependencies.

Art. 3—From the time the Institute is ready for working operations none of the cows which are not for the slaughtering house can be introduced in the district unless they have been in the institute during the time necessary for its observation so as to enable the true state of its health being pronosticated.

Art. 4—The animal which is tuberculosis will be sacrificed and the result of the sale of the products which the ordinance authorizes to be issued shall be given to the owner as full indemnization.

Art. 5—For the animals which are suspected of being tuberculosis the test will be renewed and the observation prolonged until the real state of its health is ascertained and so as to act in accordance.

Art. 6—The animal which is in good health will be delivered to its owner to be taken to the cow farm fulfilling previously the indications established for guaranteeing its state of immunity.

Art. 7—The cows which are attacked by some other infectious disease or which have merely been condemned as suspected of suffering such infermi-

ties will be kept isolated, enjoying proper treatment and will be delivered to their owner when there is no longer any danger of contagion.

Art. 8—Whilst the animals remain at the Institute the expenses will be for account of the Municipality and the milk yielded may be used without remuneration, at the Hospitals, being sterilized previously.

Art. 9—The staff of the Inspection of Cow Farms will reside at the Institute of Observation which will be under its charge and whilst watching the sanitary state of the cows which are to be introduced in the cow farms will have renewed every six months and whenever deemed convenient inspections at the cow farms so as to submit, the animals which are lodged there, if considered necessary, to other observations at the institute ad-hoc.

Art. 10—The owners of cows which are introduced to the district with the purpose of providing milk, when they have not been submitted to the prophylactic inspection referred to by the preceeding articles will suffer a fine of one hundred dollars per head for each animal and should they incur a repetition of the offence the closing of the cow farm and in addition imprisonment for ten days will be ordered.

Art. 11—Cancel all the provisions in force which are in opposition to the regulations of this Ordinance.

Art. 12—This ordinance will commence to have power six months after its promulgation.

Art. 13—Notify, etc.

Sgd.—Salas, Eugenio T. Soria.

Sanitary Police Regulations N°. 2

SPECIAL REGULATIONS FOR INDUSTRIAL ESTABLISH-
MENTS

Buenos Aires, October 4th, 1906.

In conformity with the rights granted to the Executive Power for Animals and it being convenient to regulate separately the sanitary police measure applicable for the establishments which elaborate products from animal origin and the sale section of same.

The President of the Republic

DECREES

Art. 1—(Law No. 3959 Art 1). The Animal Division with the approval of the Minister of Agriculture will dictate the instructions which are to be observed for the inspection of the cattle market, (tablada) fairings, slaughter houses, cold storages, salting places, and in general all the establishments

where products from animal origin are elaborated, when the places where the sale is effected or the sacrifice of animals takes place or where the manufacturing establishments are situated or from which the products are extracted, belong to the federal jurisdiction, or if they are situated in a province, the animals or the products proceed from another nation some other province or from other territories or are destined for international commerce interprovincial or that of a province with territories of the federal jurisdiction or vice versa.

Art. 2—The cattle market and slaughter house of Liniers (Federal Capital), the Barracas al Sur market (Buenos Aires, slaughtering market Tablada station, the cattle market and slaughter house of Rosario (Santa Fe) and any other which in future may be in identical conditions will be under the sanitary vigilance of the Animal Division which will designate the veterinary inspectors who will be entrusted with the application of the provisions of this present decree and the instructions which in consequence are dictated in accordance with the following rules.

a) In the cattle market of Barracas al Sur and slaughter house, the sanitary vigilance, from a veterinary point of view, will be exercised exclusively by the inspectors of animals.

b) In the other markets the sanitary vigilance

will also be effected by the inspectors of the Animal Division but in conformity with the regulations of the municipal authorities in order to distribute the different sanitary objects which the national and local inspections are to control.

c) The inspectors of the markets (tablada), etc., will inspect the cattle in the yards, inclosures, market places, etc., and will prohibit the sale or the extraction for slaughtering or for any other destiny, of all the animals attacked by contagious diseases or suspected of being so, unless effected in the conditions which in certain cases are determined by special resolutions of the animal Division.

Special instructions issued by the Sanitary División

Art. 3—Special instructions dictated by the Animal División and approved by the Ministry, placed in each establishment will indicate, taking into account its importance and situation as also the form of performing the operations, the conduct to which the veterinary inspectors will be subject.

Fairs and expositions—Permits to be requested

Art. 4—Every fair or cattle show or be it sale section or of exhibition during certain days of the year, where animals can be sold or purchased which are to be transported through the territory of more than one province or though a province and a terri-

tory in the federal jurisdiction, must be authorized and come under the vigilance of the Sanitary Division with which object in view the organizers or administrators with twenty days anticipation are to apply for the corresponding permits.

Treatment in the event of contagious diseases being proved

Art. 5 — Every time the veterinaries entrusted with the inspection of fairs or cattle shows prove the existance there of animals attacked by contagious diseases or suspected of being so they will proceed to isolate them, adopt the requisite measures investigate the origin and the extension of the disease, take the name of the owner and the situation of the establishment where they were isolated and immediately communicate the information gathered to the Sanitary División.

Industrial establishments which elaborate products from animal origin

Art. 6—All the existing industrial establishments or those which may be installed in future with the purpose of elaborating animal products destined to international commerce interprovincial or of territories of the federal jurisdiction and such establishments situated within the quarters in question will be subject to the sanitary inspection by the veterinary surgeons of the Sanitary Division.

*Sanitary conditions, payments and locality for
veterinary inspections*

Art. 7—The industrial establishments (salting places, cold storages, manufactures of preserved meat, tallow works, etc.) existing can only continue the elaboration of animal products after the publishing of this decree when according to the judgement of the Sanitary Division they unite the necessary hygienic conditions and when they agree to pay monthly the expenses of the veterinary inspection which is demanded by the nature or importance of the establishment.

They will also be compelled to provide a locality for the veterinary inspection and in case the inspector does not reside in the establishment of whose inspection he is in charge it will be for the companies account to supply the means of transport for his daily conduction to the factory.

Seal and certificates for products destined to international commerce and interprovincial

Art. 8—All the establishments which elaborate products from pork, of any animal origin, destined for exportation for interprovincial commerce or of a province with the federal capital or vice versa, are to issue their products with á stamp which testifies to the corresponding technical inspection placed

thereon in the form and manner established by the instructions of the Sanitary Division and in addition the mark of the factory by which it will be possible to precise its industrial procedure and for the establishments which the instructions determine a certificate testifying to the sanitary inspection effected.

Inspection of the imported animal products

Art. 9—As from the first of January 1907 all products from pork and from other animal origin which is imported are to be inspected before allowing its introduction.

The object of the inspection will be to guarantee that the products do not proceed from animals attacked by contagious diseases and that they are of good conditions which will admit of its use for nourishment.

Certificate for imported products

Art. 10—All the products from animal origin to which the proceeding article has reference are to be accompanied by a certificate of the country of its industrial procedure duly legalized which testifies to their proceeding from establishments subject to a sanitary inspection similar to that in force for analogous corporations operating in this Republic.

The limitation of certificates of exportation

Art. 11 The official certificates of veterinary inspection will only be granted for the products proceeding from animals slaughtered in the Republic.

Instructions which will be issued by the Sanitary Division

Art. 12—The Animal Division will issue special instructions for the sanitary service of the cold storages, salting places and other industrial establishments of this nature in accordance with the requirements of each región and for the better service of the inspection.

Penalties

Art. 13—Any infringement of the preceeding stipulations should a penalty not be specially provided for by the law of the Sanitary Police for Animals will be punished by the infliction of a fine of from \$ 100 (one hundred) to \$ 500 (five hundred dollars) or with imprisonment for thirty (30) to sixty (60) days of the party at fault, in conformity with the importance of the infraction. (Law 3959 artículo 29).

Art. 14—The Sanitary Division when dictating the special instruction for the cattle markets and for the establishments referred to by article 12 will determine the division of the penalties provided for

by the preceeding article in accordance with the importance of the offence in each case or according to the number of heads a herd may consist of when animals attacked by parasitic diseases are being considered whose form of transport has been in violation of the regulations.

Art. 15—Notify, publish and pass to the National Registry.—Sgd).—Figueroa Alcorta, E. Ramos Mexia.

Note—The Sanitary Division distributes in loose sheets appendix with instructions for the application of the present decree. Appendix No 1 refers to the regulations of the inspection of sanitary veterinary of the Tablada market and No. 2 to the Regulations of the cold storages, salting places and other establishments which elaborate products from animal origin. For the future other special instruments will be published.

The treatment and prevention of the bovine tuberculosis

IMPORTANT INITIATIVE OF THE ARGENTINE GOVERNMENT

For the objet of taking advantage in the Argentine Republic of the new discoveries made in the treatment of bovine tuberculosis Mr. Ezequiel Ramos Mexia Minister of Agriculture to Buenos Aires has ordered in the month of July 1906 from our colleague Professor José Lignieres Director of the National Bacteriological Institute to present the following propositions to the persons concerned in this matter.

The Government bearing the expenses places at the disposal of the experts who posses an efficient remedy against tuberculosis the bovine animals of marked value imported from Europe and reproduce the disease in this country and which have been slaughtered on account of showing reactionary disease since having received the tuberculine.

The animals in question whose average price amounts to 10.000 franks and amongst which exist the champions bought in England 40 and even

50,000 franks and which are apparently in excellent health and whose disposition to tuberculosis is practically remote.

It is evident that if the treatment is to be effected with efficient results there is no better medium than those animals whereas it would be entirely different if a cow badly nourished were in question in its bad lungs flesh and wounds.

Of all the experts who have been consulted by Professor Lignieres in France as well as in Germany Belgium and Italy only one up to the present viz : Professor von Berhing has accepted the proposal of the Argentine Government which being interested in the curative methods of tuberculosis has immediately adopted the plans of Professor Berhing.

For the self same reason articles 9 and 10 have been attached to the contract which is transcribed below.

The interested parties are called upon to note that art. 4 admits of other people experimenting.

CONTRACT

The following has been agreed to by the Minister of Agriculture on the one part and Professor von Berhing of the other part.

Art. 1—The Argentine Government desirous of utilizing the bovine reproducers which give a reac-

tion to the tuberculous and which are actually slaughtered on account of the pest and without gains agrees to lodge same under its immediate inspection and care in an hospital especially designed for receiving these animals.

All or some of these animals will be placed at the disposal of Professor Berhing who agrees to have applied in Buenos Aires his curative method which having been scientifically tested has proved successful with cattle and with sheep.

Art. 2—Professor Berhing has compromised himself to send to Buenos Aires his chief assistant Dr. Pablo Romer to apply the treatment on the imported bovines suffering from tuberculosis.

His engagement is for the term of one year.

Art. 3—As regards remuneration Dr. Romer will receive upon the signing of this contract and for his passage out the sum of \$ 2000 marks. From the first day of his arrival in Buenos Aires he will enjoy a monthly salary of \$ 1000 paper. His mission having been fulfilled Dr. Romer will receive a further \$ 1000 marks to cover his return journey to Europe.

Art. 4—Dr. Romer complying with the instructions of Professor Berhing will merely be the judge of the nature form and intensity of the treatment. He cannot demand that all the imported animals for breeding should be placed at his disposal which

give a reaction to the tuberculine but only a part of them.

The right of controlling the mode and result of the treatment belongs to a special Committee which for the purpose will be named by the Minister of Agriculture. The Committee can in no case interfere with nor demand that it should be placed at its disposal.

Art. 5—When Dr. Romer considers that the animals treated have been practically cured he will have to prove the same to the Committee. When the Committee approves that the animals treated are cured they will be handed over to their respective owners and will be periodically inspected for the said Committee. A certain number of the animals treated will be slaughtered and the autopsy will take place before the Committee when Dr. Romer will have to illustrate the result of the treatment. The animals not cured within the space of six months will be slaughtered so as to allow for the carrying out of the autopsy.

Those tuberculosis animals used for breeding will be slaughtered so as not to prolong the treatment.

Art. 6—The Argentine Government compromises itself to pay to Professor Berhing the value of the curative specific at the rate of \$ 1 for each injection but each cure is not to exceed ten injections.

Art. 7—In the event of the Argentine Govern-

ment or Professor Behring considering the continuation of Mr. Romer's mission useless up to the conclusion of the stipulated year they are entitled to cancel the contract without indemnization by any of the parties excepting the \$ 1000 for Dr. Romer's return journey.

Art. 8—Be it that the mission has lasted a year or less and the results have proved satisfactory Professor Behring will compromise himself to have his remedy practically benefitted by the Argentine Government after the departure of his representative.

Art. 9—Besides the obligations indicated in the preceeding article Professor von Behring compromises himself to have tested by Dr. Romer his bovine vaccine on the bovines especially selected by the Argentine Government and which will be placed at its disposal.

The Argentine Government will pay for the bovine vaccine employed in these cases.

Art. 10—The programme for the experiments with the bovine vaccine will be previously fixed and be already approved of by Professor von Behring.

Berlin, February 12th 1907.

In accordance with article 10 Professor Lignieres has formulated the following programme which was accepted by Professor von Behring and which

adheres to the preceeding contract as regards to the exactness and importance of the experiments which are to be effected in Buenos Aires.

The programme of the experiments of the bovine vaccine which are to be realized in the Argentine Republic in accordance with the contract entered into with Professor Behring.

The experiments will be carried out under the following conditions on bovines expressly marked which have an age of from 20 days to three months and born in localities unaffected by tuberculosis and previously tuberculized and which should successfully support the aforesaid operation.

The first series will consist of 50 animals of which 20 will serve as tests and the remaining 30 will receive their first vaccination from Dr. Romer. The first vaccination will be carried out for the Committee on the experimental animals so as to determine the exact state of their health. After the first vaccination the inoculated animals and those present will receive the ordinary freedom of life without being allowed to associate with other animals of the bovine species. Those which after three months of inoculation will be tuberculinized, two of the vaccinated will be slaughtered for the autopsy and

some of their organs or tissues healthy or not will be used for the inoculation of the experimental animals, after which the remaining 28 animals will be inoculated by Dr. Romer with the second vaccination. The second vaccination as the first will be carried out in the same mode and under the same conditions on the experimental animals.

Those inoculated and the others present will always be together under the ordinary conditions of life.

Three months after the second vaccination the inoculated and those present will be submitted to the tuberculine test.

As soon as the results are ascertained two bovines will be slaughtered for the autopsy and their organs or tissues, healthy or otherwise will be inoculated for the Committee on susceptible animals.

At the same epoch meaning six months after the second vaccination the 24 remaining bovines and the 20 others present will be submitted by the Committee to the test of the bovine virus tuberculosis.

In the following manner 5 vaccinated animals and 5 of those present will receive the virus in the veins, 5 vaccinated animals and 5 of those present will receive the virus under the skin, 14 vaccinated animals and 10 of those present will be confined in a limited space in close but natural contact with the animals which are tuberculosis.

Six months after the inoculatory test all those surviving will receive an injection of tuberculine and afterwards be slaughtered whether cured or still affected by the tuberculine.

Two vaccinated animals and two of those present which had been vaccinated in the veins and two of those which received inoculation under the skin. As regards to those vaccinated and to those present submitted, to the test of natural contamination none of same will be slaughtered with the exception of those showing a notable reaction to the tuberculine. One year after the testing inoculation the remaining animals will again be tuberculinized. They will then be slaughtered whether they show reactionary signs or not this meaning two of those vaccinated or two of those present which have been inoculated in the veins as also two of those vaccinated and two of those present having received inoculation under the skin and moreover all those animals contaminated which give a reaction.

Nevertheless one year and a half after the test of small pox has been carried out all the remaining animals shall be slaughtered and the autopsy of them taken after the last injection of tuberculine. After every autopsy the Committee is compelled to inoculate all susceptible animals and the wounds which may be found and the pulpe of the

of the organs and the tissues which are apparently healthy or until such time as they assume a non tuberculosis state.

The second series also consists of 50 bovines which will be subject to a different regime from that of the first, they will be submitted to the same ordeal but one month later. The third series will commence one month after the second consisting of the same number of animals placed in a different locality but will be submitted to the same experiences.

The fourth series will be composed of 30 head of cattle of which 10 will be vaccinated simultaneously with those of the first series ten at the same time as those of the second were vaccinated and 10 together with those of the third. All these animals will be preserved under ordinary circumstances and without coming tuberculinized.

One year later ten of these animals will be tuberculinized and afterwards submitted to the contamination test of the virulent bovine bacillus of tuberculosis.

The same experiment will be made on ten others which have been vaccinated two years after the injection. Lastly the last ten will be employed under conditions at the end of three years.

To facilitate the observations and investigations the animals which are to receive the autopsy will be transported to Buenos Aires.

For each series two veterinaries proposed by the controlling Committee will be destined to the sanitary vigilance for animals who will take note of the circumstances surrounding the case in a special and rubricated register.

Paris. 1st February 1907.

J. Lignieres.

It is understood that for the first three series I have the right to employ vaccine elaborated in Marburg and transported to Buenos Aires, for the second series fresh vaccine prepared in Buenos Aires by Dr. Romer and lastly for the third series only one vaccine instead of two.

Marburg, 14th February 1907

E. Behring.

We will keep our readers informed of the result of all experiments. In the mean time we can assure them that the health of Professor von Behring is excellent and, quite contrary to the reports circulated and he continues to work assiduously in his laboratory at Markburg.

OFFICIAL COMMITTEE ⁽¹⁾

PRESIDENT Doctor José Penna--*Director of the Public Assistance of B. Aires.*

VICE-PRESIDENT Doctor J. R. Semprun--*Director of the Alms House of Buenos Aires.*

GENERAL SECRETARY Doctor Fermín Rodríguez (hijo)--*Director of the Santa María Sanatorium.*

ASSISTANT SECRETARY Veterinary Surgeon Doctor Ramón Bidart--*General Inspector of the Sanitary Police.*

COMMITTEE Doctor Eliseo Cantón--*Senior of the B. Aires Medical Science Faculty.*

Doctor Carlos Malbrán--*President of the Hygiene National Dep.*

Doctor Pedro N. Arata--*Director of the Theory of Agriculture and Veterinary Superior School and of the Municipal Chemical Office.*

Professor José Lignières--*Director of the National Bacteriological Institute.*

Doctor Desiderio Davel.

(1) This official Committee is the referred to in the contract.
Page 142. Art. 4°.

Regulation for cold storages, salting places, tallow works and preserved meat factories

SECTION A.

51

GENERAL CONDITIONS OF HYGIENE WHICH ARE TO BE
OBSERVED BY THE ESTABLISHMENTS

Art. 1—The cold storages, salting places, tallow works and other establishments like them already installed as well as those which may be established in future shall adhere to the general prescriptions of the sanitary police regulations and to the special ones of this document.

Art. 2—All the principal dependencies of the establishment such as the slaughtering yard, drying dept., intestines emptier, tallow works, hide salting places, preparation of the jerked beef, of the extract of meat or of any other product elaborated by the factory, are to be separate one from the other.

Art. 3—The slaughtering yard must contain:

a) A shed or identical covering of adequate material (but not of wood) with the conditions of

ventilation light and interior impermeable walls (when closed) which the Animal Division may determine in each case after the inspection of plans and of the places has been carried out.

b) Floor of Portland or of any other impermeable material which the Animal Division may approve absolutely level with a sufficient incline and connected in an angle with the wall.

c) Ample chanel and abundantly distributed and with gratings around all of the chanel.

d) Abundant water service.

e) Impermeable tables for the manipulation of the meat.

f) Wheel barrows and depots for healty viscus and for the parts confiscated (these with moveable covers) lined with impermeable material, sieves with metalic netting for sundries and cans for the tongues, rubber brooms for cleaning.

Art. 4—Contiguous to the yard there is to be:

a) Washing service and service of easy approach and accomodating for the use of the employés.

b) Halls for aprons and utensil cupboards for the employes which are to be kept perfectly clean (When the working depts, are on several storys the following dependencies are to exist in each storey).

c) An office for the Veterinary Inspection of a capacity proportioned to serve the purpose of an office and a laboratory with a sink and a water



service at an angle. Their openings will be provided with frames having metallic netting with a device for closing the door automatically.

Art. 5—The drying chamber must be well ventilated and the ventilators are to be of sufficient force to be available for service in summer. The floors with their joints are to be water tight the use of saw dust must be avoided and a space is to exist within the same drying hall where the confiscated animals are to be kept.

Art. 6—The intestines emptier will be of identical construction to that of the yards and the vessels for the refuse will be of iron or of some other impermeable material.

Art. 7—When the grease is destined for alimentation the tallow works shall meet the following conditions.

a) Enamelled floors.

b) The interior wall must be of enamelled material or metallic with impermeable joints in all its height and the ceiling of material and arched.

c) Impermeable tables and galvanized iron vessels.

d) Doors and windows protected with metallic netting.

e) A special dependency as a depot for grease in vessels.

When the grease is for industrial consumption it

will be sufficient if the floors are impermeable and the Animal Division will only exact the compliance with those conditions which are necessary for the proper hygienic condition of the dept.

Art. 8—The cold storage chambers must meet the most rigorous hygiene requirements in cleanliness and ventilation, it is to be preferred that the airing shall be by means of ventilators.

Art. 9—The depts. of extract of meat, meat dust, preserved tongues and other analogous products must have.

a) Their walls impermeable throughout the same as the floors.

b) Marble tables or of any other metal or enamelled material.

c) Metallic vessels or impermeables for the transport of the meat or lined with zinc or metallic netting.

d) Doors and windows with metallic netting.

Art. 10—The hide salting places will have impermeable floors and Portland sinks for salting.

Art. 11—The depts and packing of the jerked meat are to meet satisfactory hygiene and ventilation conditions.

Art. 12—The columns will be ample and will be installed in well paved floors. They will have a suitable orientation.

The pavement will be of granite stone with their joints filled with cement.

Art. 13—The dependencies for the tongues and other sundries in the salting places will be constructed of impermeable material and their openings with panels of metallic netting having fixed and automatic closing devices.

Art. 14—The autopsy hall will be isolated and will be of easy approach for the carts which transport the dead animals and it will also meet the following conditions.

a) Impermeable walls up to three metres in height.

b) Portland floors with an ample declivity and also with ample chanel.

c) Sink for washing tools and for the use of the staff.

d) Water service facet adaptable to a hose.

e) Cupboard for aprons and tools which will be used exclusively for autopsy.

f) Cart for transport of dead animals lined with zinc and which will be disinfected each time it is used.

g) An oven for incineration (o tacho digeridor).

Art. 15—In each establishment there will be a sufficient number of water closets which will be constructed in conformity with the prescriptions of the local ordinances or with those of the General Sanitary Dept.

Art. 16—The yards will be ample and properly

secure, the floors of fire bricks with a declivity and necessary drainage and provided with troughs.

Art. 17—The streets of the establishment will be ample, and paved and will be kept perfectly clean.

Art. 8—Any other elaborations of products from animal origin which are not expressly understood by this regulation will be subject to the special prescriptions which the Animal Division stipulates.

SECTION B

Sanitary inspection

Art. 19—The cold storages salting places tallow works and preserved meat factories come under the direct vigilance of the sanitary dept., as imposed by the Animal Division.

Art. 20—When requesting authorization to commence work the companies should furnish details of the manner of working class and species of the products to be elaborated. In future advice must be given with sufficient anticipation of any change to be effected in the procedure of elaboration, when new products are manufactured so as to enable the Animal Division to realize the corresponding inspection and grant the reglamentary certificates.

Art. 21—For the purpose of revision the companies are compelled to give advice to the veterinary

surgeon service, with anticipation of the arrival of herds at the establishment. Such is to be placed in a convenient place before the entrance of the animals in the inclosures.

Art. 22—The companies will endeavour as far as possible to have the animals arrive at the establishment during the day, that is before the evening.

Art. 23—The companies furthermore will also comply with the following obligations.

1—The animals which proceed from the cattle market, must be provided with a certificate of health granted by the Inspection Dept. of said markets.

2—The animals which arrive by (arreo) or railway coming from long distances are to be allowed to rest in yards for such a time as the veterinary surgeon may deem necessary previous to starting the slaughtering.

3—They will furnish the veterinary inspector with every possible detail in connection with the herd i. e. number of voucher, of animals, procedure, ets

4 — Will notify the veterinary inspector with anticipation the hour in which operations will commence which never and under no pretext can be commenced with when the party in question is not a witness thereof.

5—The entrance of the sanitary inspector will

be allowed in all the dependencies of an establishment where products are elaborated.

6—The necessary time will be allowed to the sanitary inspector so that he may revise all the animals (with their viscus) regarding each herd (tendida).

7—The animal refuse will be destroyed solid or liquid in accordance with the instruction of the sanitary inspector.

8—The water which is employed to wash the meat must be from a semisurgeant well (pozo semisurgente) and if proceeding from elsewhere it must be filtered unless for special reasons the Animal Division allows the use of water which has not been filtered.

9—The entrance of dogs in the establishments is prohibited.

Art. 24—The confiscations practiced by the sanitary inspector as also the other indications with reference to certain products are to be accepted by the companies and their regulations effected in the presence of said party.

Art. 25—All the meats congealled as also cold must have special labels analogous for all the establishments, signed by the veterinary inspector, the jerked meat and those products which are despatched in cases, boxes, etc. will carry the stamp of the Ministry of Agriculture which will be put on by the inspector.

Art. 26—All cargo exported must carry a sanitary certificate unless the Animal Division shall exempt the bearer from this obligation. Said certificate can, in no case, be granted by the sanitary inspector who will limit himself to furnish a provisional voucher to be exchanged for the definite one at the Animal Division.

Art. 27—The staff directly in charge of the manipulation of the meat will be bound to the following conditions

a) Are to have a medical certificate which will testify that they do not suffer any contagious disease or from any other complaint which the sanitary inspector deems would render it incapable of performing those works and which will state that they have complied with the vaccination law.

b) Said certificates can be renewed every six months and should it be deemed convenient the sanitary inspector can exact a medical examination being practiced at any moment.

c) They will be provided with hygienic suits.

d) Smoking is absolutely prohibited at the slaughtering yards and at the other dependencies where products are elaborated.

Art. 28—Those who commit any of the following infringements will be punished with the maximum of the penalties accorded by law No. 3959 of the Sanitary Police for Animals.

a) Those who employ confiscated meat (carnes decomisadas) or that which has been declared bad by the official inspectors.

b) Those who use meat from animals which have not been previously inspected by officially authorized veterinaries.

c) Those who change the form of elaboration who have not given advice with anticipation to the Animal Division.

Art. 29—(Law 4155 art. 5 Every infringement of the prescriptions of this Regulation will be punish, if a penalty is not especially provided for by the General Sanitary Police Law No. 3959, with a fine from \$ 100 to \$ 500 or imprisonment for 30 to 60 days according to the importance of the infringement.

Art. 30—Without prejudice to the application of the fines established by the laws and regulations of the Sanitary Police, the Animal Division may prevent the working of the establishments who refuse to comply with the resolutions issued for the application of the reglamentary prescriptions.

Buenos Aires, January 21st 1907.

To His Excellency the Minister of Agriculture,
Dr. Ezequiel Ramos Mexía.

Sir:

Article 12 of the Sanitary Police Regulation for Animals No. 2 of the 10th of October last, states that

“the Animal Division will issue special instructions for the sanitary service of the cold storages, salting places and other industrial establishments of this category in accordance with the requirements of each region and bearing in mind the best service of inspection”.

So as to comply with that prescription the drawing up of the regulation was entrusted to the Chief of the Inspectors of the cold storages and salting places, veterinary surgeon Nicolás T. Suárez Esq.

The scheme having been presented and approved in all its parts by the General Inspection Dept. the undersigned has just done the same with certain modifications which do not in any way alter its foundation or the spirit thereof.

I hereby submit it to your Excellency in the same form as I did so with the (Tablada) regulations and of the (embutidos) factory and at the same time I request authorization to have same printed as appendix No. 2 of the Regulation of the Sanitary Police for Animals No. 2 (No. 1 is that of (Tablada) and No. 3 is that of the (embutidos) factory.

Dios guarde á V. E.

(Signed) José León Suárez.

The scheme of regulation for the service of the

cold storages salting places and other industrial establishments of that nature having been under consideration, the Animal Division opinion having been heard and it having been found that said scheme of regulation meet the conditions which are essential for the working of establishments of that nature.

It is resolved

1—To approve the scheme of regulation for the sanitary service of the cold storages salting places and other industrial establishments of the category in question.

2—To return it to the mentioned Division in order that same shall put it in force. Signed) Ramos Mexía.

This present Regulation having been approved have a copy taken of it for the printers and published in a pamphlet as Appendix No. 2 of the Regulation of the Sanitary Police for Animales No. 2.

Ministry of Agriculture of the Argentine Republics

SANITARI POLICE FOR ANIMALS N°. 1

General Regulations of Sanitary Police for Animals

DECREE OF NOVEMBER 8 TH 1906

Sanitary División, Zoological and Veterinary Police

GENERAL REGULATION OF THE SANITARY POLICE
FOR ANIMALS

Buenos Aires, November 8th 1909

The experience having demonstrated the necessity of reforming the regulations in force of the Sanitary Police for Animals adjusting them more strictly to the spirit of law No. 3959 as also the express text of its provisions and simplifying them as far as possible so that they will be of more easy comprehension and application.

The President of the Republic

DECREES

Art. 1—The cancelling of the regulation of the Sanitary Police for Animals dictated by decree of the 15th of February 1902.

Art. 2—The general regulation of the sanitary police for animals whose insertion follows, is hereby declared as in force from this date and such is inclusive of the provisions of law No. 3959 for the better comprehension and clearness of same and the text is distributed in accordance with the order it should follow.

*General regulation of the Sanitary Police for
Animals*

SECTION I

Art. 1—The protection of cattle in the territory of the Republic against the invasion of exotic contagious diseases and against the action of epizooty now existent in the country, will be carried out by the Executive Power through the medium established by this law.

1—In the capital of the National Republic territories and quarters subject exclusively to the jurisdiction of the National Government.

2—In connection with the operations of importation and exportation to and from foreign quarters.

3—Concerning the traffic and commerce in cattle between one province and another or any of the situations mentioned in clause No. 1.

4—In all those cases in which the governors of a province request interventions for the limits wi-

thin their respective jurisdiction or when contagious diseases are to be handled and these extend to more than one province or when, although occurring in only one of them the infirmity assumes an epizootic character and threaten danger outside of it (Law Art. 1).

Contribution by the provincial governors

Art. 2—The governors of a province as natural agents of the National Government are to contribute towards the fulfilment of this Law within the limits of their respective territories.

The Executive Power can, nevertheless, make use of their own staff, providing such with the necessary authority to ensure the end in view, when circumstances warrant this measure being adopted. (Law Art. 2)

Faculty granted to the Executive Power by this law

Art. 3—The Executive Power when regulating this law will furnish a list with the name of the diseases to which art. 1 has reference and concerning which its action will apply and such may be debiated from whenever it may be considered suitable. (Law Art. 3).

*Diseases which give rise to action being taken
by the national sanitary police*

Art. 4—The following diseases are considered

exotic and in all cases constitute a danger for animals in the Republic.

The bovine pest, contagious Perineumoria, Ovin smallpox, sifilis, la fiebre aftosa, glanders, scarlet, fever, foot and mouth disease.

Exclusive jurisdiction of the National Government

Art. 5—Having reference to the diseases specified in the preceeding article all the inhabitants of the Republic are compelled to comply with the sanitary police provisions of this law and with the regulations of the Executive Power be it that the diseases occur within federal territories or within the boundaries of a province.

Existing diseases which belong to the national jurisdiction

Art. 6—The following are the existing contagious diseases which when they assume an epizootic character, are to be handled by the National Government.

All species of carbuncle, all species of bovine symptomatic carbuncle, all species of tuberculosis. Ovine and goat scab the tristeza, hydrophobia and hog cholera and all species of Rabies.

Denouncement

Art. 7—Every proprietor or person who is in any

manner in charge of, taken care of, or handling animals suffering from exotic contagious diseases or suspected of being attacked by such infirmities, is compelled to immediately inform said fact to the authorities as indicated by the Sanitary authorities (Law Art. 4).

Obligation to denounce

Art. 8—It is absolutely compulsory that the diseases enumerated in Art. 4 of this regulation be denounced by anyone who may directly or indirectly come to know of their existence and the Sanitary Division will severely punish said omission by inflicting upon the culprit the full force of the penalties provided for by this law.

To whom the denouncement is to be made

Art. 9—The denouncement should be made to the veterinary inspector who is nearest to the Sanitary Division of the Ministry of Agriculture.

Special obligations of the national, provincial or municipal authorities

Art. 10—The governors of the national territories, the municipal intendant of the district of the federal capital, the political chiefs, the captains of police, the municipal intendants and all other national authorities provincial or municipal who

through any circumstance may come to know of the existence of any of the diseases enumerated in art. 4, are compelled to communicate said fact to the veterinary inspector nearest to the Sanitary Division of the Ministry of Agriculture.

Initial measures to be adopted for cases of contagious diseases or suspected to have died from them

Art. 11—Without prejudice to this declaration and even before the authorities intervene, from the moment the owner or his representative may have noticed the first symptoms of the contagious disease, they should proceed forthwith to isolate the infirm animal, keeping it apart as far as possible from the healthy animals.

The same declaration and isolation are compulsory as concerns the dead animals or those supposed to have died owing to contagious diseases and the remains are to be buried or destroyed in the manner specified in the regulations of the Executive Power.

Steps which are to be taken by the authorities as an initial measure

Art. 12—At the moment the authority received the denouncement or has knowledge of the existence of the disease, same will adopt measures to ensure the fulfilment of the provisions of the afo-

resaid article furnishing everything which may be necessary for the execution thereof and ordering that the diseased animals be looked at and examined when this is possible and of those dead by the expert who may be available so as to testify as to the nature of the infirmity.

Communication to the Executive Power

Art. 13—The same authority will also bring the fact to the knowledge of the Executive Power in the manner and through the means indicated in the regulations.

*Divers measures which may be adopted by the
Executive Power*

Art. 14—If from the information given to the Executive Power it happens that the disease comes under those mentioned in the regulations which article 4 deals with or that the case comes under the infirmities included in the clauses of article 1, the Executive Power may declare the property infected the region or the whole province according to the seriousness of the case and it will have power to isolate sequesterate and prohibit the transit of animals of the infected zone in order to disinfect and even destroy the animals and the things which may cause the conveyance of contagion and so as to adopt those measures which,

in each case, may be suggested advisable to adopt by the nature and character of the epizooty.

Art. 15—The declaration of infection will determine the extension of territory which is covered and will give rise to the application of the following sanitary measures.

1—Granting to the veterinary health dept. all opportunities of vigilance in the transit of the persons and animals and of the transport of the things within the boundary of the property, region, or province infected and of communication with the different quarters.

2—Isolation, vigilance, sequestry, treatment, marking and inventory of the animals and herds contained within the boundaries of the districts infected.

3—Complete or partial isolation of the region declared infected and prohibiting in the first mentioned case of communication of persons or transport of things when owing to not having previously been disinfected they may be the cause of conveying contagion.

4—Absolute prohibition or conditional of having shows and fairs and of the transport and circulation of cattle.

5—Incineration or disinfection through other modes according to the diseases or objects dealt with of the stalls, sheds or stables, vehicles, enclosures and of every object which may have been

in contact with the diseased animals or of suspected infirm cattle or which may be the cause of conveying contagion.

6—Desoccupation of camps for a certain period, disinfection of these by fire and provisional prohibition of the use of the natural or artificial appliances for watering animals.

7—Prohibition of the sale for consumption or of taking advantage in any form whatever of diseased animals or suspected as also of the products from them or remains without first having permission from the veterinary sanitary authority.

8—Preventive immunity or provoked infection of the animals as circumstances require.

Isolation

Art. 16—On every occasion when a property or region is declared infected, the veterinary inspectors shall proceed to separate the diseased animals or suspected from their species and from the others susceptible to contagion.

Sequestration of diseased animal and slaughtering of the same

Art. 17—When animals attacked by one of the diseases enumerated in article 4 are concerned the isolation shall be complete and the sequestry of animals will be ordered and they will be placed

under the vigilance of the staff which the Sanitary Division shall name or of whom in agreement with the said dept. the owner may designate. Should the circumstances so advise the Sanitary Division may, in this case, order the slaughtering of the diseased animals.

Obligation of the neighbouring owners

Art. 18—The neighbouring proprietors should prevent under the direction of the veterinary inspector the animals from approaching the boundary of the infected region. It should be determined in each case the appropriate boundary of the infected zone to which the animals should be allowed to approach.

Prohibition to issue guias

Art. 19—The Ministry of Agriculture will arrange that the authorities shall not issue guias whilst the infection is declared to exist and if the resolution is not complied with will declare the district, department or region infected as they may deem advisable, absolutely prohibiting the interprovincial transport to or from national territories and by national railways.

Destruction of carcasses

Art. 20—The Sanitary Division will determine

the most adequate and efficient measures to which the destruction of carcasses are to be subject and the cost of this operation shall be on the respective owners' account.

Prohibition to transport diseased animals by railway

Art. 21—The introduction to the district of the federal capital or the national territories and to the establishments under the national sanitary jurisdiction is prohibited the transit between provinces or between these and federal territories and the transport by railway, by the maritime lines and by land or water of the animals attacked with any of diseases enumerated in articles 4 and 6.

Desinfection of vehicles

Art. 22—Managers, carriers or transporters are obliged to disinfect their vehicles within 24 hours after the disembarcation of the stock, as in accordance with article 24, this refers to all classes of wagons, steamers, and vehicles which are used for the transport of stock by land or water. Under no circumstances can any of the aforesaid be used until the disinfection has been carried out (Law 3959 article 11).

Autopsy and destruction of carcasses

Art. 23—The national railways and the other transport Companies which convey animals are

compelled to facilitate the autopsy of the dead animals and to supply the necessary elements for their destruction in the manner stated in the sanitary instructions of the Sanitary Division.

Disinfection

Art. 24—It is compulsory to disinfect every quarter or place person or thing which may lodge germs or cause the spreading of contagion. The Sanitary Division will, in each case, determine the manner in which the operation shall be effected should such not already be included in the special laws and regulations which apply to each disease.

SECOND SECTION

Bovine pest.

Art. 25—Immediately the existence of the bovine pest has been proved the zone or región will be declared infected as the case may be and the following measures will be applicable.

1—Absolute isolation of the zone or region declared infected and the carrying into effect, within the same, of the measures established in articles 15 and 20.

2—The animals belonging to whatsoever species cannot, under any pretext, leave the quarters reserved for the isolation but those which are roaming, if necessary, can be placed there.

3—The form of isolation referred to in clause 1 means sequestration nevertheless egress of persons or the extraction of things from the infected zone will be prohibited even in the case of isolation. Except, in each case, when special permission be granted by the Sanitary Division.

4—The diseased animals, those contaminated and also, in certain cases, those suspected will be slaughtered and their carcasses burnt at the places as may be determined.

5—Within the zone infected, the animals susceptible to contagion, will be vaccinated.

6—All the places and objects where it is believed germs of contagion exist will be closed until six months have transpired after the last case occurred and have been disinfected in the manner ordered by the Sanitary Division.

Contagious perineumonia

Art. 26—When the existence of contagious perineumonia is ascertained the provision of the preceding articles will be acted on and the closing of the farm will be effected for a period of not less than six months from the date of the last case.

Ovine small pox

Art. 27—Immediately small pox is proved to exist in the ovine or goat species the region will be

declared infected and the following measures be adopted.

1—Isolation of the infected establishments and sequestry of the diseased animals.

2—The vaccination of the suspected and contaminated animals.

3—The carcasses and horns cannot be used.

4—When thirty days have expired from the date of the last case or from that of the vaccination the animals will be bathed with some of the disinfecting compositions ordered by the Sanitary Division and the declaration of infection can be withdrawn.

5—The suspected animals may be slaughtered for consumption whenever the Sanitary Division may allow this.

Equine sifilis

Art. 28—When the existence of equine sifilis is proved the animals attacked with it will be slaughtered the suspected sequestrated and the disinfection performed which the Sanitary Division may order.

In exceptional cases the Sanitary Division may order the castration of the equine species instead of slaughtering these.

Aftosa fever

Art. 29—Immediately the existence of the fiebre aftosa has been proved the zone or region will be

declared infected as the case may be and the following measures will be adopted.

1—Absolute isolation of the infected zone and of an extension which the Sanitary Division will determine for each case and the adoption therein of the specified measures for the declaration of infection.

2—The animals of any species, things, persons and any objects which may be vehicles of infection cannot leave the infected zone to that which is unaffected unless previously and sufficiently disinfected and in no case can pass from that free from disease to the infected parts unless equine animals or persons having special permits are in question.

3—The diseased and suspected animals shall remain isolated in the establishments until completely cured.

4—The carcasses or remains of the dead or slaughtered animals will be disposed of according to the mode determined by the Sanitary Division.

5—The camps and the localities when the animals attacked with fiebre aftosa have been will be the object of being submitted to all the prophylactic measures which it is possible to adopt.

6—The declaration of infection is not to be cancelled until after 15 days have expired from the date the last case occurred and after the necessary disinfections have been effected.

7—The milk of the diseased animals can only be used for the purposes determined by the Sanitary Division.

8—When it is a question of destroying any medium which might possibly produce an epizooty in any part of the Republic the slaughtering of animals infected or suspected of being infected may be ordered.

9—When the propagation of the *fièvre aftosa* in one or various Provinces and it is found to be impossible to stay or extinguish the epizooty or when within an infected zone it is necessary to facilitate the contagion on account of it being inevitable the provocation of the infection will be permissible even by placing the healthy animals with those infected or by infecting same.

Glanders

Art. 30—Immediately the existence of glanders has been proved the zone will be declared infected and the following measures will be adopted.

1—The measures adopted will be in accordance with the stipulations made in clauses 1, 3 and 4 of article 25.

2—Animals belonging to the species of horse, ass or mule cannot enter or leave under any circumstances the zone set apart for isolation.

3—The diseased animals will be slaughtered and the carcasses burnt on the spot.

4—The animals contaminated or those suspected of being so will be separately sequestered and “maleinizados” slaughtered which are found diagnostically to possess a reaction.

5—The camps or any properties where glanders have been proved to exist will be closed to transit and support of animals for the space of three months after the occurrence of the last case.

Scarlet fever and swine fever

Art. 31—The moment the existance of scarlet fever or swine fever is proved the property will be declared infected and the following measures will be adopted.

1—Separate sequestration of the diseased and suspected animals.

2—The suspected animals may be slaughtered for consumption.

3—The animals which have died from any of the aforesaid diseases will be cremated.

4—The contaminated and suspected animals may be vaccinated.

5—The declaration of infection will cease to have effect after the expiration of thirty days since the last case or 20 days after the date of vaccination.

Cholera and porcine hydrophobia

Art. 32—All other porcine contagious diseases

(swine cholera and porcine hydrophobia) will be subject to the measures stipulated in clauses 1, 2 and of the preceeding article and in accordance with the instructions of the Sanitary Division.

Rabies

Art. 33—The Inspectors of the Sanitary Division will co-operate to the fulfilment of the general or local provisions which may be dictated for the prevention of the propagation of the Rabies in the Provinces and by the municipalities.

In the National territories and localities for which no special provisions exist the mode of procedure will be dictated by the Sanitary authorities.

Carbuncle. Obligation to vaccinate

Art. 34—Whenever the Sanitary Division proves that cases of carbuncle have occurred at an establishment be it because of the existance of a case of some malignant boil human or animal or be it due to infested animals found on the roads in the slaughter house cold storages fairs or any other places will notify the owner or representative of the establishment that the immediate vaccination of the infected species or the suspected of becoming so shall be immediately proceeded with. Until such time as these regulations have been complied with the extraction of these species from the establishments will be prohibited.

Proving that the vaccination has been done

Art. 35—To prove that the vaccination has been carried out the owner or representative is to fill in and forward a form or a note to the Sanitary Authorities specifying the number and species of animals vaccinated. The total number of each species existant at each establishment the class of vaccine employed and the name and domicile of the person who has supplied the vaccine.

The Sanitary Division may exact, should it deem necessary that the owner of the animals or his representative is to advise eight days before the vaccination is to be carried out so as to permit of an inspector witnessing the operation.

Measures against those who do not vaccinate

Art. 36—In the event of the Sanitary Authorities proving the vaccination not to have been carried out or to have been incompletely accomplished or that fresh cases have occurred after the vaccination will declare the establishment infected and will adopt the following measures.

1—The extraction of all classes of animals from these establishments will be prohibited also hides and other animal remains.

2—The prohibition to introduce to an establishment any animal which has not been previously vaccinated.

3—The moment animals have died or suspected of having died of carbuncle they will be burnt without even being skinned and on the spot where found.

4—The disinfection for the cases of carbuncle will be effected in accordance with what has been established by this regulation with the extension to things which have been in contact with diseased animals or to those which have died of the aforesaid disease.

Recalling the declaration of infection

Art. 37—The Sanitary División may only recall the declaration of infection established in the preceeding article after ten days have expired from the date of the last case or 15 days after the date when all the stock of the establishment was vaccinated.

Prohibition of transit permits

Art. 38—The authorities in charge of emitting vouchers or transit permits will not supply same from the establishments declared infected unless in cases when the interested parties hand in documents drawn up in proper form, that the Sanitary División issues or with its authorization and which testify that the permit is for the extraction of stock.

Data which the Sanitary División may request

Art. 39—For the purpose of testing the vaccina-

tions those who elaborate same or use anticarbuncular vaccines veterinaries or other intermediates who apply then are obliged to state every time the Sanitary Division request such the number of purchasers and the number of dosis bought by each, the establishments which issue vaccine are also to declare, when the Sanitary Division makes the request, the total number of dosis sold

Art. 40—Should the existance of symptomatic carbuncle (mancha) be proved the Sanitary Division will adopt the measures stipulated in the preceeding articles and which may be applicable for this disease.

The vaccinations may only be performed when authorized by the Sanitary Division and using for the purpose vaccine elaborated with virus of the country.

Tuberculosis Samples for analysis

Art. 41—All the cow farms or the establishments where milk is profitted by or which elaborate same in any form for consumption or for sale in a territory of a federal jurisdiction or for international commerce interprovincial or of a province with territories of a federal jurisdiction or vice versa may be inspected by the Sanitary Division with the purpose of obtaining samples of the milk or of the products and baeteriological analysis effected with a

view to ascertain the existance bacillus of the tuberculosis.

The Sanitary Division may effect the same scientific observation with the products referred to by this article requesting or acquiring the samples at the places for public sale.

Obligation to pasteurise or tuberculinization

Art. 42—All the establishments in whose products the existance of bacillus of the tuberculosis has been proved will be obliged to pasteurise the milk they sell or employ for industrial purposes in accordance with the stipulations and under the vigilance of the Sanitary Division. It may leave the obligation to pasteurise the milk without effect when the owner requests the inoculation of all the cows suspected of being attacked by tuberculosis and supplies all the necessary stables for performing said operation.

Tuberculinization of reproducers

Art. 43—All the reproducers which are destined for fairs markets or expositions may be submitted to the inoculation test whenever the Sanitary Division may suspect they are attacked by tuberculosis be it because they show symptons or be it on account of their having come from establishments where the existance of tuberculosis had been observed. The Sanitary División so as to effect the ino-

culatation will exact that the animal remains at the stable for at least 48 hours.

Marks

Art. 44—The animals which give a diagnostical reaction will be marked by fire so as to distinguish same that they may be slaughtered or be it that they may be destined for consumption within the space of time determined by the Sanitary Division should the local authorities not object to this.

Cases when meat may be availed of

Art. 45—The slaughtered tuberculosis animals cannot be used as food when they have intermuscular ganglion or viscerales, miliary eruptions or other injuries in the mucous and splenic organs of the thoracic and abdominal at the same time. At the establishments where there are no digestive vessels the carcasses and their remains will be destroyed by fire. May be partially or totally used with the exception of the affected organs (which will be burnt) when the tuberculosis wound has been completely localized in the abdominal cavity of the animal.

Scab

Art. 46—The transport of carriage in any shape or form is absolutely prohibited of the ovine and

goat species which is attacked by scab to any extent. Consequently the vouchers or permits of transit issued by the local authorities will carry the observation : "free from scab."

Measures against the circulation of animals and of those with scab

Art. 47—The Sanitary Division will put in force the following measures and will see that they are complied with.

1.—The railways and transport institutions will not allow the loading on their wagons or embarkations of any animal which it is evident are attacked by scab rejecting all herds amongst which animals are found to be attacked by scab.

2.—The veterinary inspectors of the cattle loading wharves of cold storages slaughtering sheds salting places (tabladas), fairs, expositions, markets and of any other establishment which according to this regulation belongs to the national sanitary jurisdiction will reject the troops of animals of the ovine species which have scab to whatever proportion.

3.—The hides of the animals attacked by scab cannot be used for commercial purposes nor be transported in any way if they have not previously been desinfected with some kind of "anti-sárnico" declared to be efficient by the Sanitary

Division or with some other class of desinfectant which will serve the purpose.

4.—The troops which have not been rejected as having the scab are to be tested by being bathed twice with “sarnifugo” whose use is to be approved by the Sanitary Division and at intervals of twelve days after which the slaughtering of it will be permitted or that it be for some other destiny.

These measures may be modified for troops which arrive for “tabladas”, cold storages or other establishments in accordance with the provisions of the Sanitary Division instructions approved by the Ministry of Agriculture.

Treatment for the cases of repetition

Art. 48—When the repetition of a case has been proved to have occurred by the Sanitary Division in the forwarding of troops attacked by scab to sections of a national jurisdiction the consigning establishment will be declared infected prohibiting the extraction of all animals of the sheep and goat species until such time as the other inspection performed at the request of the interested party can prove that the scab has disappeared.

Tristeza

Art. 49—So as to prevent the propagation of the tristeza to the region already affected and obtain

its disappearance from the zone where it only exists because of the introduction of animals attacked by “garrapata”, arrived from the north, be the territory divided in three zones: e.e. infected zone, intermediate zone and undamaged zone.

Divisions of zones

Art. 50—The lines which divide these will be stipulated by the Sanitary Division keeping in mind for the purpose that the quality of the undamaged zone corresponds to the region free from the “garrapata”, the intermediate to that partially invaded by this parasite and the infected to that totally invaded or mostly so.

The instructions which the Sanitary Division will publish and have profusely made known will clearly establish the lines which divide the zones and the places where the transit of stock may be officially effected between one line and another. The same applies when because of change in the state of the infection of some of the regions, the divisory lines be modified.

Transit between zones

Art. 51—The Sanitary Division will previously impose a “garrapaticida” bath of recognized efficiency on the divisory lines of these zones for all troops which transit the infected zone to the inter-

mediate or from this to the undamaged zones demanding further, before autorizing free transit that all the animals shall be free from "garrapatas".

Cases of exception

Art. 52—Excepting from the obligations established in the preceeding article, the troops arrived from establishments of the intermediate zone, declared clean by the Sanitary Division, when destined to the undamaged section or from the intermediate where inspection and baths exist whenever the animals can be transported direct by railway or by water.

a) Also exception of the animals proceeding from the intermediate zone or from the infected destined to be slaughtered at the public slaughter houses when the Sanitary Division specially and exceptionally permits it for the cases when on account of the high price of meat it should deem this advisable and the transit only being allowed direct by railway or water.

b) At an equally exceptional time as that just referred to the Sanitary Division may allow the free transit from the infected zone to the intermediate when the animals are destined for salting places and cold storages and the transport be effected directly in closed and sealed wagonss from

the point of embarkation of the infected zone to the spot for unloading at the intermediate.

c) For all these cases of exception the Sanitary Division should impose the “garrapaticida” baths and adopt all the necessary precautions so that the propagation may be impossible of the “garrapata” in the undamaged zone or at the clean spots of the intermediate.

Transit in the intermediate zone

Art. 53—In the intermediate zone the transit of bovine animals infected with “garrapata”, is prohibited.

The establishments of the intermediate zone in which the existence of “garrapata” is proved to whatever amount will be declared infected and the Sanitary Division will impede the extraction of bovine animals from said establishments until it is proved that the owner is availing himself of every possible means to extinguish the parasite and in that event the permits of extraction will only be issued when it has been absolutely guaranteed that proper measures will be adopted to impede the infection of other localities or establishments, the authorities being prohibited to despatch guias or transit permits without certificated properly granted by the Sanitary Division.

Obligation to denounce

Art. 54—The owner or representative of any es-

establishment situated in the undamaged zone whereat cases of tristeza occur or in which the existence of "garrapata" in the bovines to what ever amount is proved will be obliged to immediately denounce the fact to the Sanitary Division or to the nearest veterinary Inspector so as not to incur the corresponding fine.

Art. 55—Whenever the Sanitary Division proves the existence or the presence to any amount of the "garrapata" in the bovine cattle in an establishment situated in the undamaged zone will immediately proceed to declare that establishment infected and will exact that all the bovine stock there existing be bathed for three or four weeks with a "garrapaticida" specific of recognized efficiency by the Sanitary Division until according to its judgement all danger of diffusion of the garrapata has disappeared.

The extractions of stock from these establishments can only be effected when with special permits, in each case, of the Sanitary Division and said dept. will only grant it when the animals are destined to immediately be slaughtered and when there is absolute security that there will not be propagation of the infection of "garrapatas".

Treatment for animals

Art. 56—When bovine animals are found with "garrapatas" in any road, fair or markets of the

intermediate or undamaged zones whether inspected or not when leaving or whether they have been bathed or not the owner incurs a fine which the Sanitary Division will determine in conformity with the stipulations of article 64 unless it is proved by its age that the "garrapata" has been taken on the road.

The animals to which this article refers are also to be disinfected isolated or immediately slaughtered and have been detained at the site of destiny. Only when it is not possible to adopt other measures the animals will be returned to the site or origin in the form determined by the Sanitary Division.

Hides and remains

Art. 57—All the hides and animal remains infected by "garrapata" will be disinfected in the manner determined by the instructions of the Sanitary Division.

Payment of the baths

Art. 58—The Sanitary Division may collect as much as twenty five (25) cents paper for each animal bathed in the official baths allotting the money received in this form for paying the expenses of the baths inspection and rent of the camp.

Cooperation of the rural societies

Art. 59—The rural societies legally constituted are authorized for their respective jurisdictions to inspect through the medium of their delegates named for the purpose the form for application of the extinction of the “garrapata” as also to control the working of the official baths and to receive the funds giving notice to the Sanitary Division of the bitches and irregularities which they may encounter and better will adopt the measures which may be necessary within the bounds provided for by this regulation.

Said delegates are previously to be approved of by the Sanitary Division and they are to possess documents testifying to same.

Penalties

Art. 60 (Law 3959 art. 29) Those who infringe the dispositions contained in articles 7 and 11 of this regulation and all the other of same which refer to the articles mentioned will be punished with the infliction of a fine of from \$ 100 to pesos 500 dollars or imprisonment of from 30 to 60 days according to the importance of the the infraction.

Art. 61—(Law 4155 Art. 5) All those who infringe the dispositions of law 3959 of 10th of October 1900 will be punished should there not be a penalty specially provided for, with the infliction of a fine of \$ 100 to 500 dollars or imprisonment of

30 to 60 days according to the importance of the infraction.

Art. 62—(Law 3959 Art. 30) Will be punished with imprisonment of two to six months or with a fine of \$200 to 100:

1—The owners or representatives and the functionaries or private individuals who disobeying the orders of the competent authorities may have allowed diseased animals to associate with the healthy ones.

2—Those who before the closing of the ports of the origin country may knowingly have introduced animals affected with contagious diseases to the Republic or animals exposed to contagion.

3—The managers of transport companies who conduce live animals with infraction to the regulations referred to by article 11 (of law 3959 of 1900), the penalty is to be doubled when on account of omitting the measures of disinfection or the reglamentary hygiene conditions a contagious disease may have been communicated to other animals.

Art. 63—(Law 3959 Art. 32). The penalties imposed in the preceeding articles will be doubled in the event of incurring a repetition of the same offence without prejudice to apply the resolutions of the Executive Power on the party at fault should he not have complied with them.

Art. 64—The Sanitary Division when drawing up the special instructions to which this regulation

refers will determine the magnitude of the penalties according to the number of heads a troop consists of when animals attacked by parasitic diseases are in question and which have been transported violating the regulations.

Art. 65—The penalties imposed in the preceeding articles will be applied by the federal judges or those of federal territories in summary judgment at the request of the sanitary authorities which will take part in it and the resolutions pronounced by the judges will admit of appeal in relation thereto.

Art. 66—The sanitary authorities referred to by the preceeding article will be the Sanitary Division of the Ministry of Agriculture which has the right to appoint powers of attorney to intervene in the judgements according to the provisions authorized by the law.

Art. 67—Notify, publish and pass to the National Registry.—Figueroa Alcorta.—E. Ramos Mexía.

INDEX

INDEX

CHAPTER I

- Generalities concerning Tuberculosis.—Plan of the present work.—Object and character of same.
—Methods and sources of investigation..... 5

CHAPTER II

- Geographical distribution of Tuberculosis.—Foci of contagion.—Ratio between contagion and densitz of animal population 13

CHAPTER III

- Natural immunitz.—Noxious subjects and harmless subjects.—Influence of the system of breeding.
—Vallée, Friedberger and Fronhern..... 19

CHAPTER IV

- Form in which tuberculosis manifest itself in the Argentine.—Inmptomatology.—Ganglionic Tuberculosis Experiments realized 29

CHAPTER V

- Forms of Diagnosis.—Onsecurity of Tuberculine.—Clinical Examination.—Hypodermic injections in Cows.—Theis inconvenience.—The new system 51

CHAPTER VI

Actual development of tuberculosis.—Coefficient of the Cows-sheds (Tambos), of the Agricultural and Breeding Establishments.—Statistics relating to the Llaughter Houses, Salting Sheds, and Irigorifics	63
--	----

CHAPTER VII

Sanitary Police Service for Cattle.—Extension of this Supplement.—The Exportation of Tuberculous Cattle?—Dois it proceer from the Argentine?—Restrictions imposed by our Sanitary Service	77
Ordinance in connection with cow farms and dairies in vogue in the city of Buenos Aires. (Article concerning health of Cattle.....)	89
Ministry of Public Warks of the Province of Buenos Aires. — General Direction of Public Works Ordinance. — Rendering compulsory the inoculation agianst tuberculosis of cows.	113
Sanitary Police Regulations N° 2.—Special regulations for industrial establishments	131
The treatment of prevention of the bovine tuberculosis—Iniciative of the argentine governmet	139
Regulation for cold storages, salting places, tallow works and preserved meat factories.....	150
Ministry of Agriculture of tan Argentine Republics	
Sanitary police for animals N° 1.—Decree of November 8 th 1906	162

INDEX OF ENGRAVINGS

- Type of imported sire employed in the test of Behring's system.
- Type of imported sire subjected to Roemer's treatment.
- Tuberculous Durham bull slaughtered in the Quarantine Lazaret.
- Imported Durham cow, slaughtered as tuberculous in the Quarantine Lazaret.
- Imported Jersey cow, tuberculosis on the skin.
- The sires on board. A set of cows.
- Bulls on board.
- Landing opposite the Quarantine Lazaret.
- The reit hall-Quarantine Lazaret.
- A bull in the bath 15 minutes after the landing. Quarantine Lazaret.
- After the bath, preliminary cleannes. Quarantine Lazaret.
- The rest shed. Quarantine Lazaret.
- Daily cleannes in the afternoon. Quarantine Lazaret.
- In the sun after the bath. Quarantine Lazaret.
- Performing cuti-reaction. Quarantine Lazaret.
- A set of sires who shown positives oftalmic reactions-to be slaughtered. Quarantine Lazaret.

Post-mortem operations hall a tuberculous bull who shall be slaughtered. Quarantine Lazaret.

A post-mortem examination searchin tuberculous lesions. Quarantine Lazaret.

The Director and the technical staff dressing the sacrifice act. Quarantine Lazaret.

The Quarantine Lazaret staff.

Negative hypodermic reaction and positive ocular reaction. (Villa Casilda School).

Negative reaction under Tuberculine injection. Positive ophtalmo reaction. (Villa Casilda School).

Positive ophtalmo reaction. (Villa Casilda School).

A post-mortem examination. Hipodermic negative reaction-ophtalmo positive reaction. Generalized tuberculosis. (Villa Casilda).

The instillation of tuberculine. Detail of a ophtalmic-reaction.

Type of the laboratories of the frigorifies (Frigorifie "La Negra").

Veterinary Inspection (Frigorifies).

General inspection in the frigorifies.

The disembowelment (Frigorifie).

Veterinary inspection-Putting on the sanitary control ticket.

The rejected carcasses. (Frigorifies).

The Digesters.



TYPE OF IMPORTED SIRE EMPLOYED IN THE TEST OF BEHRING'S SYSTEM.





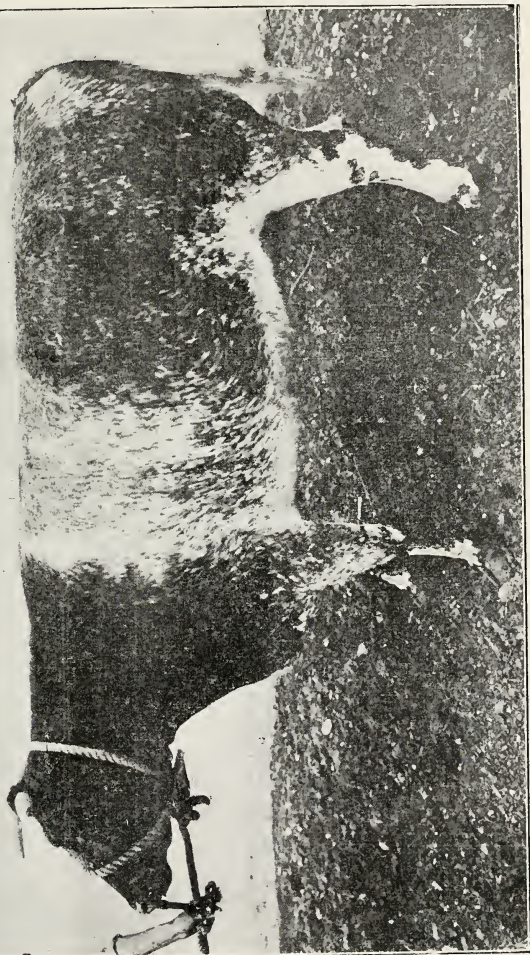
TYPE OF IMPORTED SIRE SUBJECTED TO ROEMER'S TREATMENT.





TUBERCULOUS DURHAM BULL SLAUGHTERED IN THE QUARANTINE LAZARET.





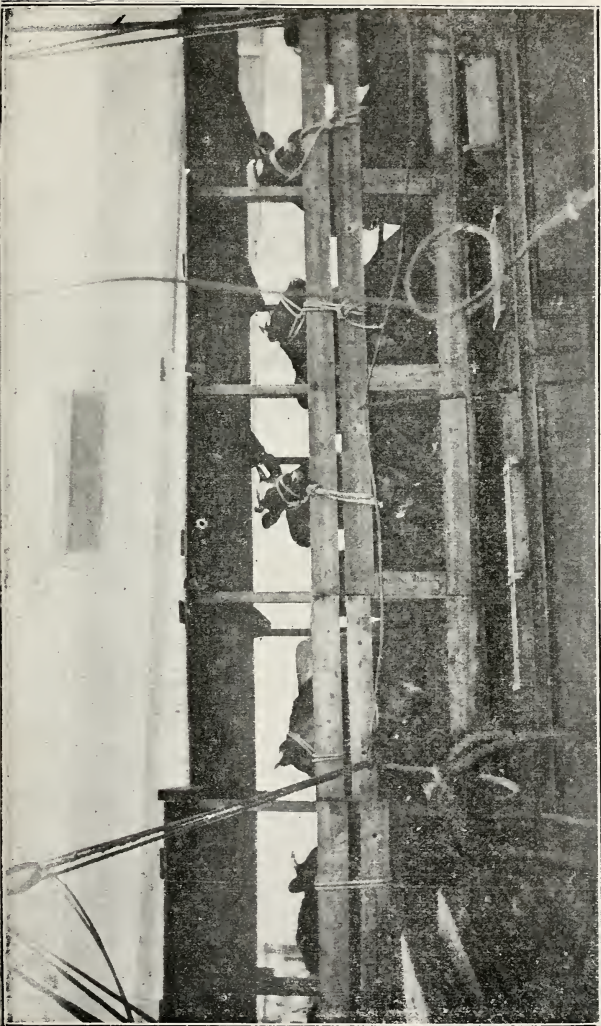
IMPORTED DURHAM COW, SLAUGHTERED AS TUBERCULOUS IN THE QUARANTINE LAZARET.



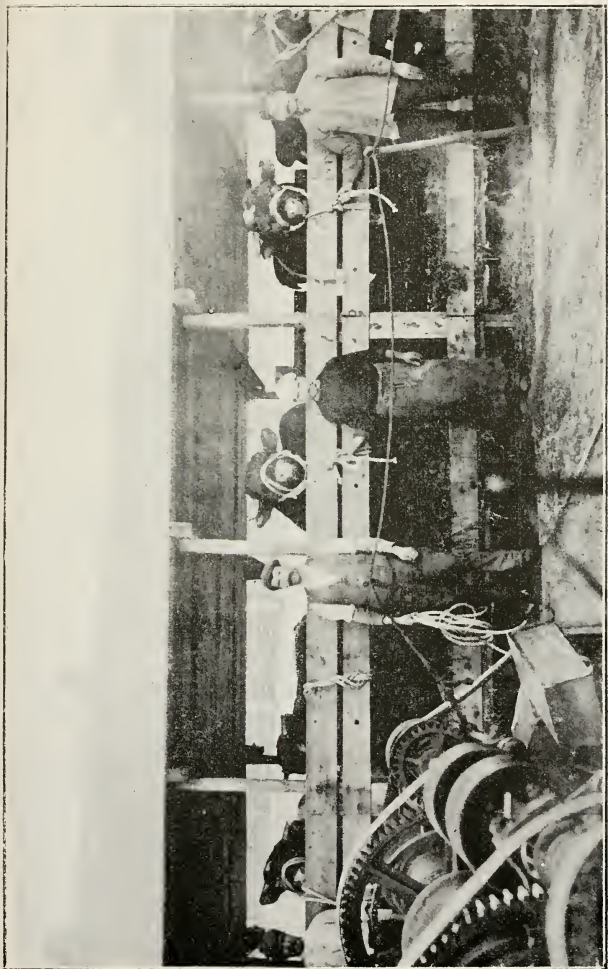


IMPORTED JERSEY COW, TUBERCULOSIS ON THE SKIN.



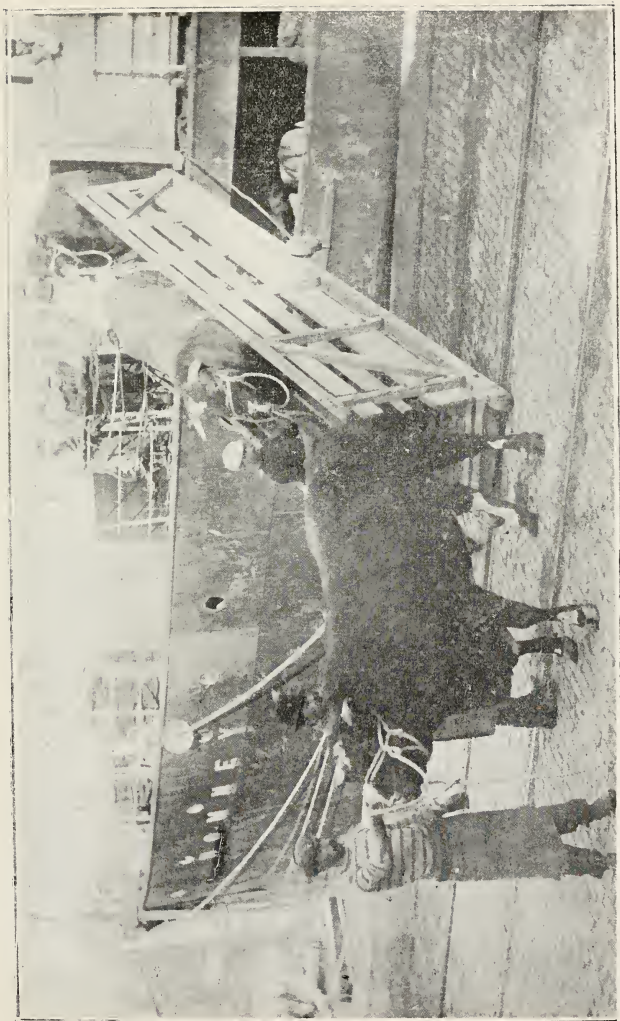


THE SIREES ON BOARD, A SET OF COWS



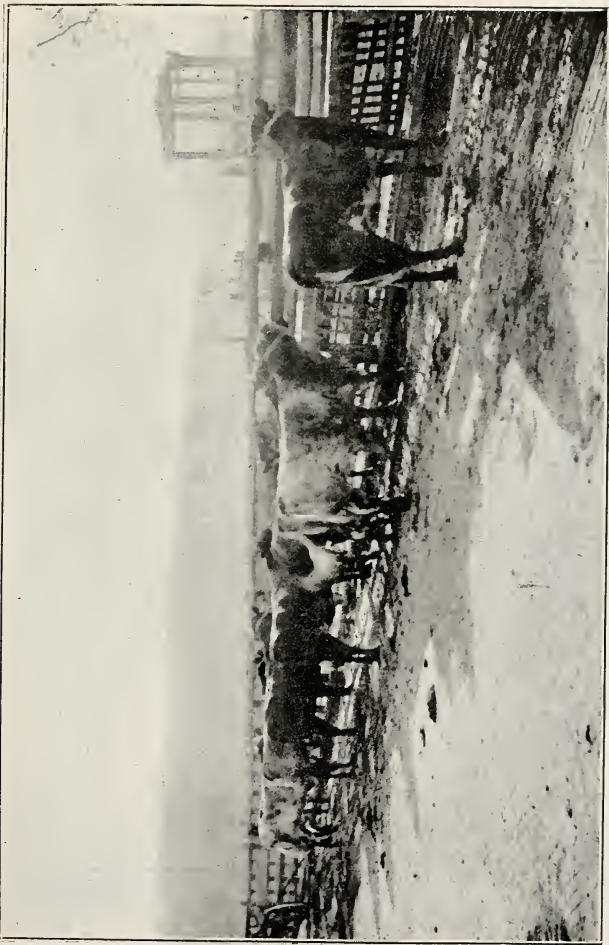
BULLS ON BOARD



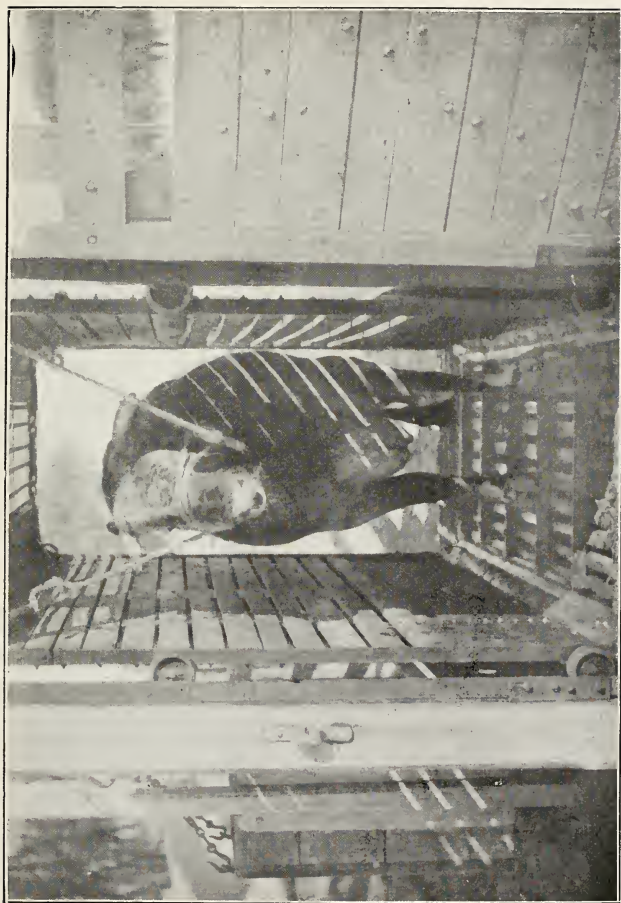


LAUDING OPPOSITE THE QUARANTINE LAZARET



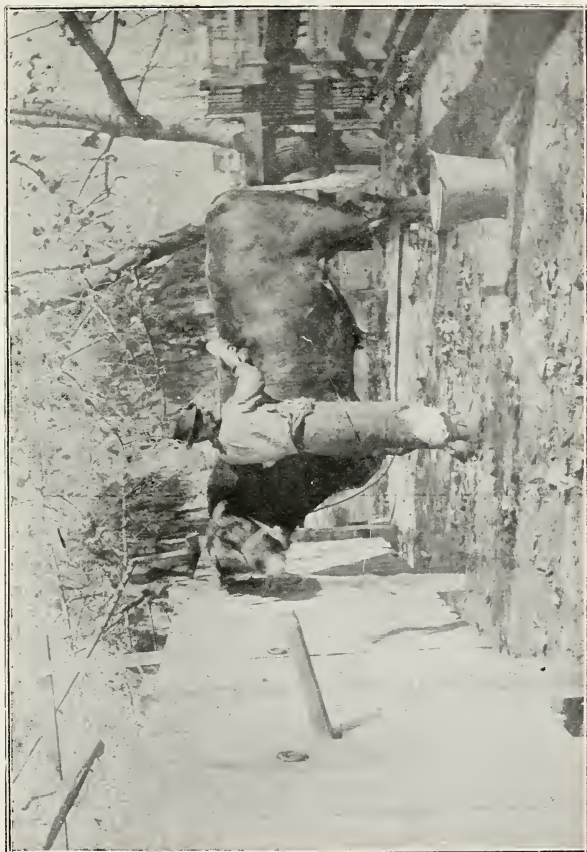


THE REIT HALL-QUARANTINE LAZARET



77 A BULL IN THE BATH 15 MINUTES AFTER THE LANDING — QUARANTINE LAZARET.





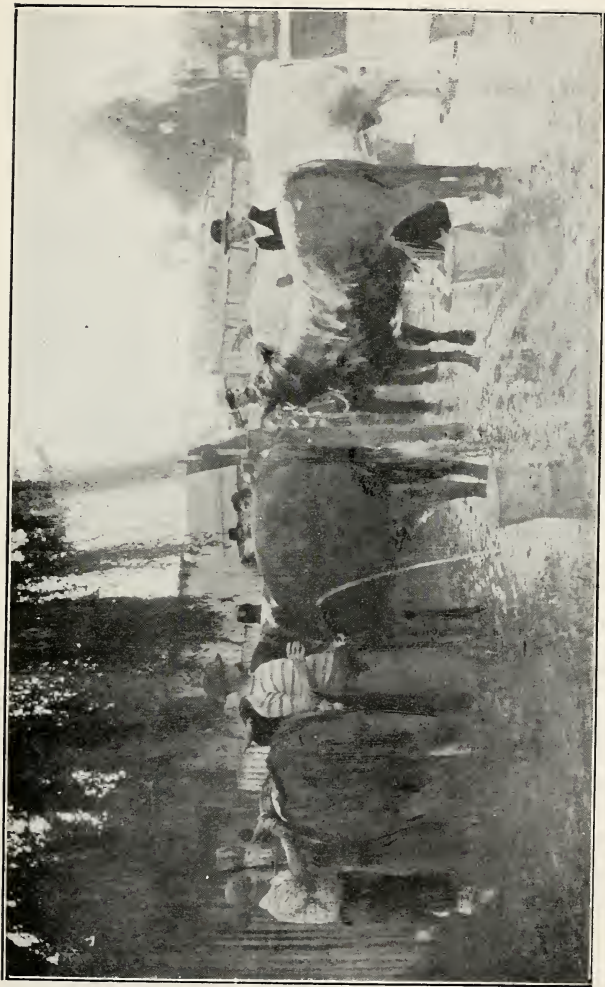
AFTER THE BATH, PRELIMINARY CLANNES — QUARANTINE LAZARET.





THE REST — QUARANTINE LAZARET





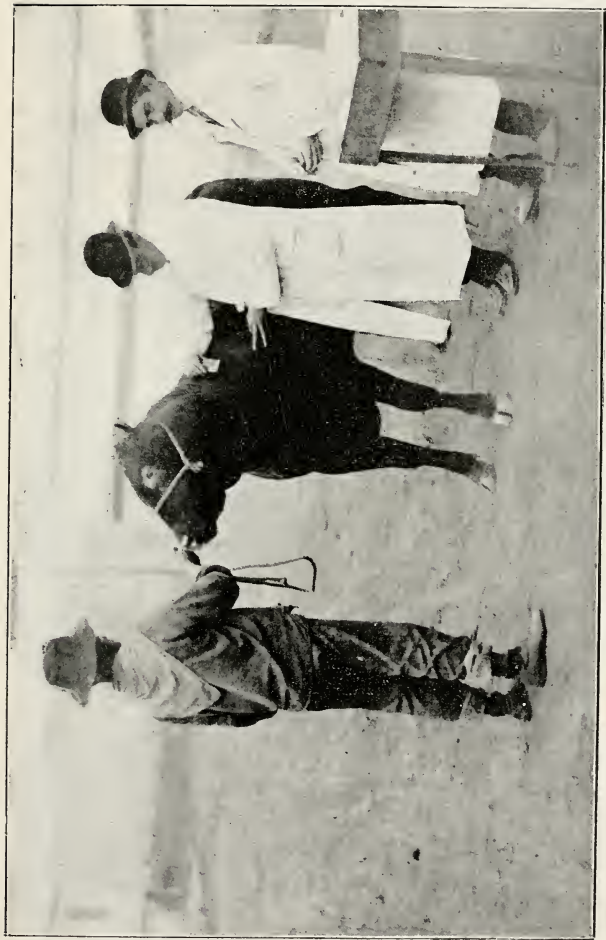
DAILY CLEANNES IN THE AFTERNOON — QUARANTINE LAZARET.



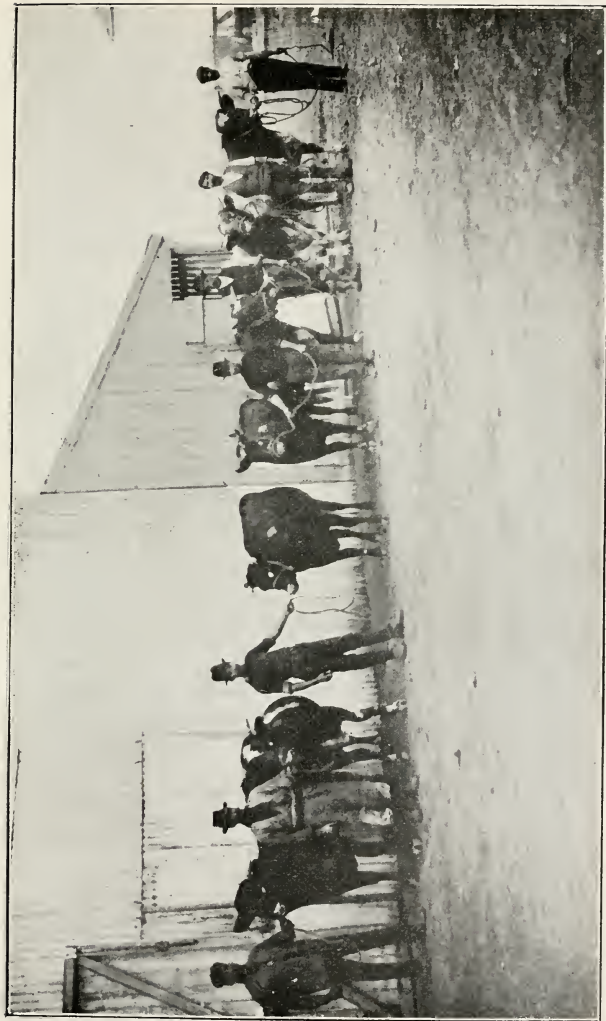


IN THE SUN AFTER THE BATH — QUARANTINE LAZARET.





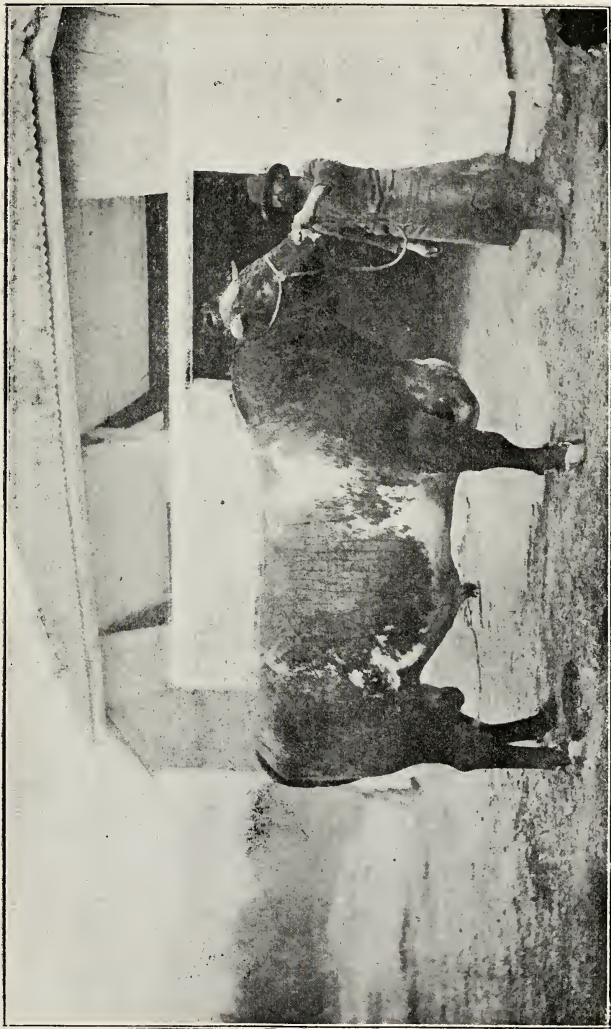
PERFORMING CUTI-REACTION — QUARANTINE LAZARET.



A SET OF SIRES WHO SHOWN POSITIVES OF TALMIC REACTIONS

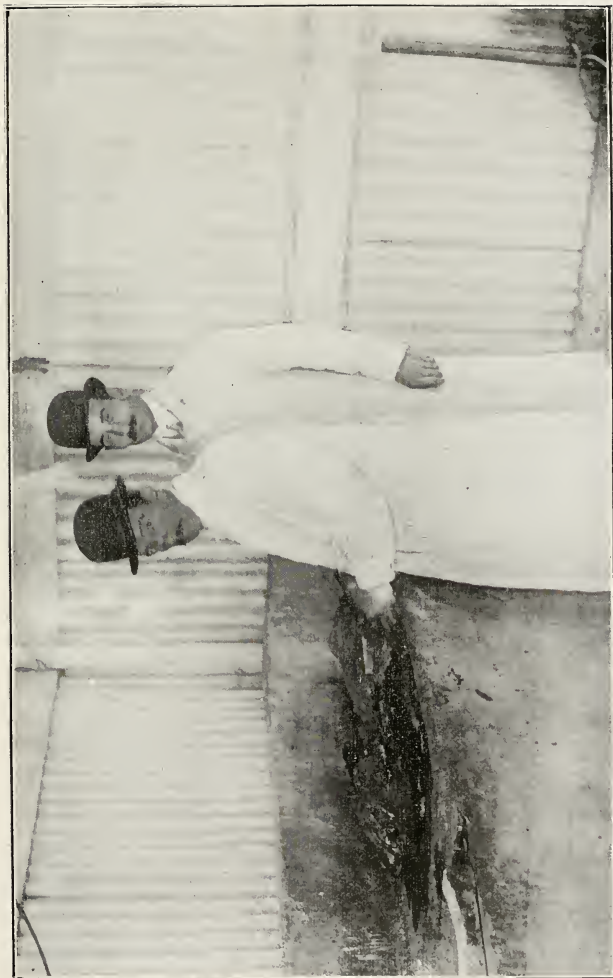
TO BE SLAUGHTERED — QUARANTINE LAZARET



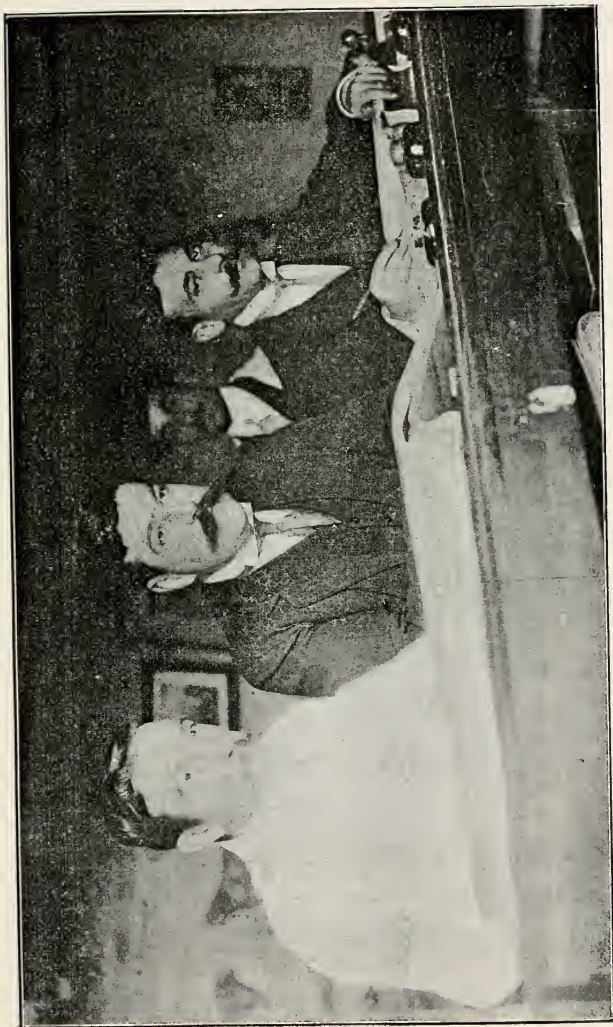


POST-MORTEM OPERATIONS HALL A TUBERCULOUS BULL WHO SHALL BE SLAUGHTERED.
QUARANTINE LAZARET





A POST-MORTEN EXAMINATION SEARCHING TUBERCULOUS LESIONS — QUARANTINE LAZARET.

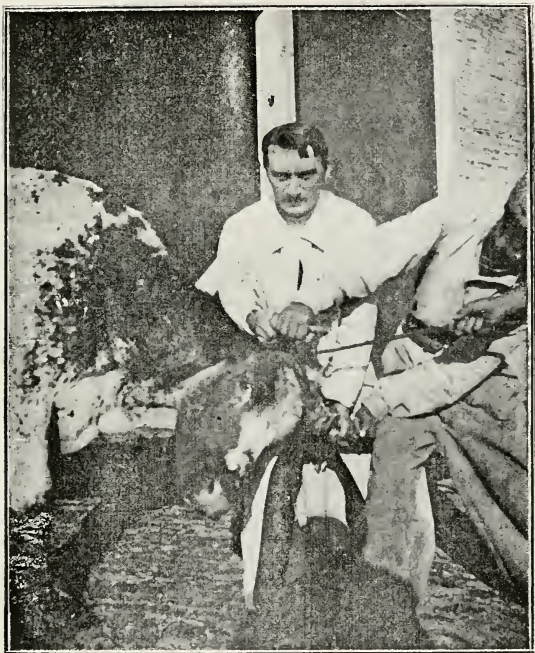


THE DIRECTOR AND THE TECHNICAL STAFF DRESSING THE SACRIFICE ACT — QUARANTINE LAZARET.



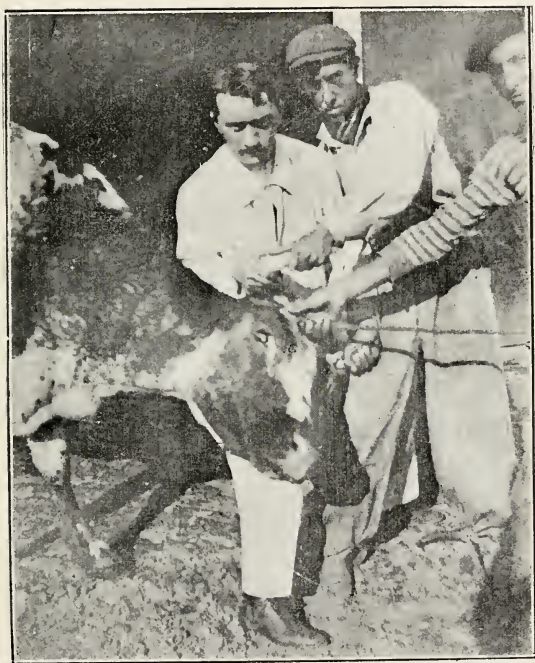


THE QUARANTINE LAZARET STAFF.



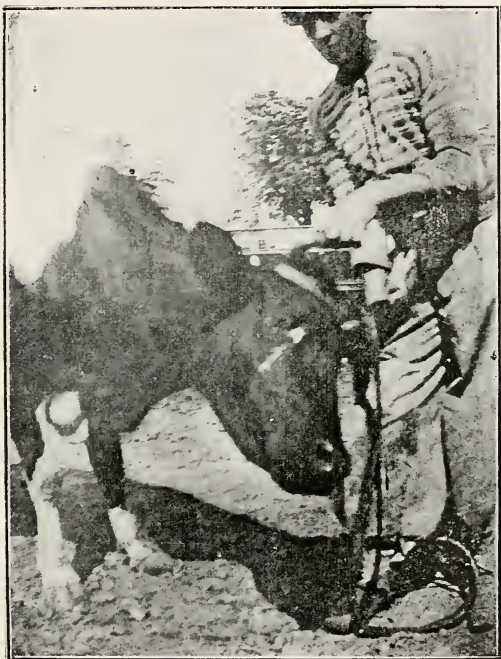
[NEGATIVE HYPODERMIC REACTION AND
POSITIVE OCULAR REACTION.
(Villa Casilda School)





NEGATIVE REACTION UNDER TUBERCULINE INJECTION
POSITIVE OFTHALMO REACTION
(Villa Casilda School)



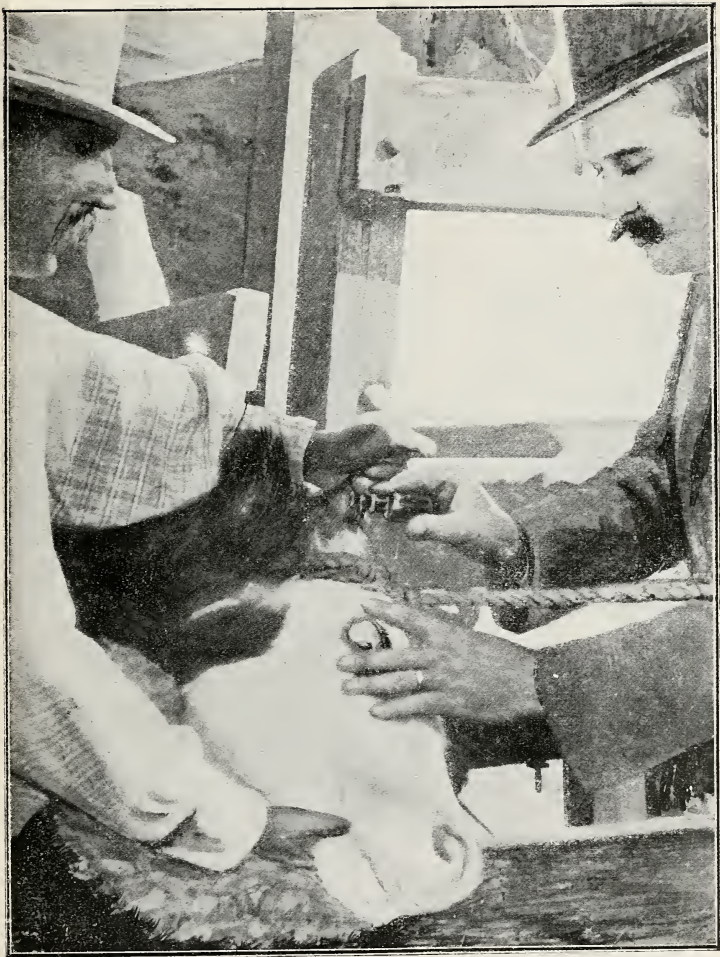


POSITIVE OPHTHALMO REACTION
(Villa Casilda School)

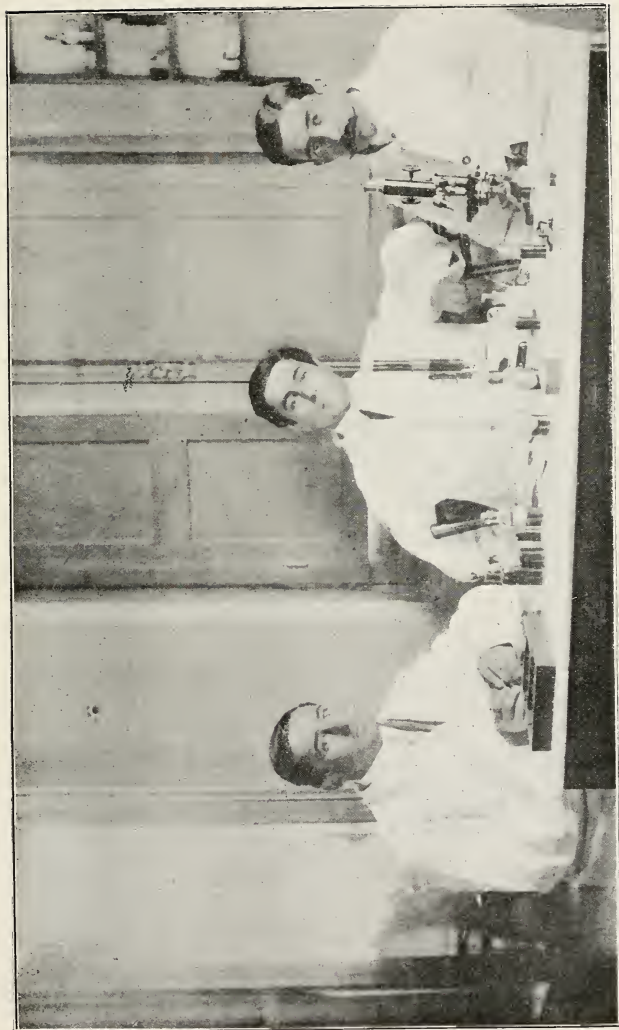


A POST MORTEM EXAMINATION.
HYPODERMIC NEGATIVE REACTION-OPHTALMO-
POSITIVE REACTION GENERALIZED TUBERCULOSIS
(Villa Casilda)

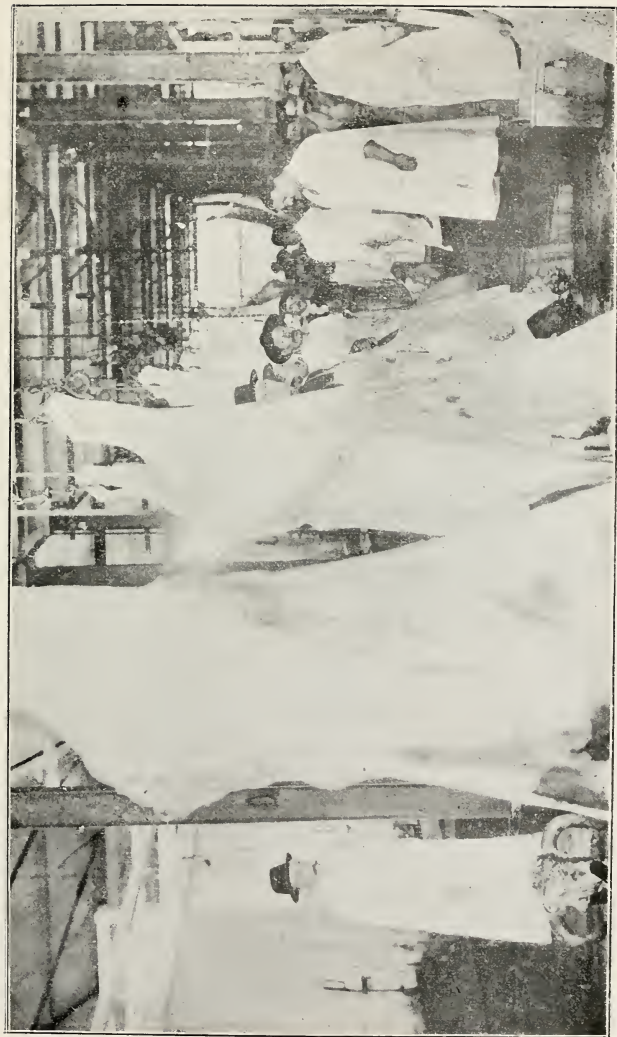




THE INSTILLATION OF TUBERCULINE
DETAIL OF A OPHTALMIC-REACTION.

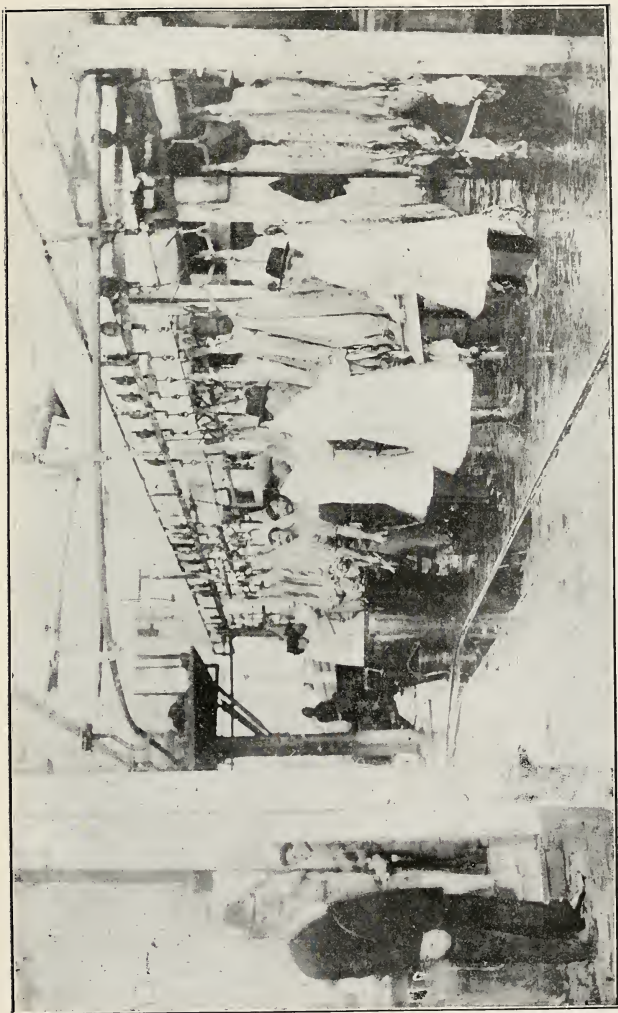


TYPE OF THE LABORATORIES OF THE FRIGORIFICS — (Frigorific "La Negra")



VETERINARY INSPECTION — (Frigorifics).





GENERAL INSPECTION IN THE FRIGORIFICS





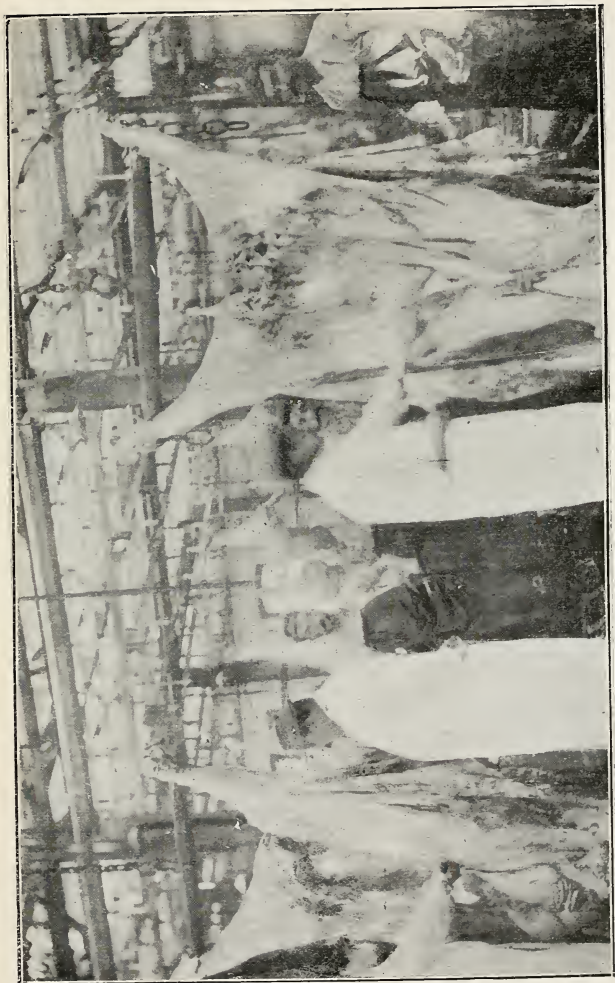
THE DISEMBOWELMENT (Frigorific)





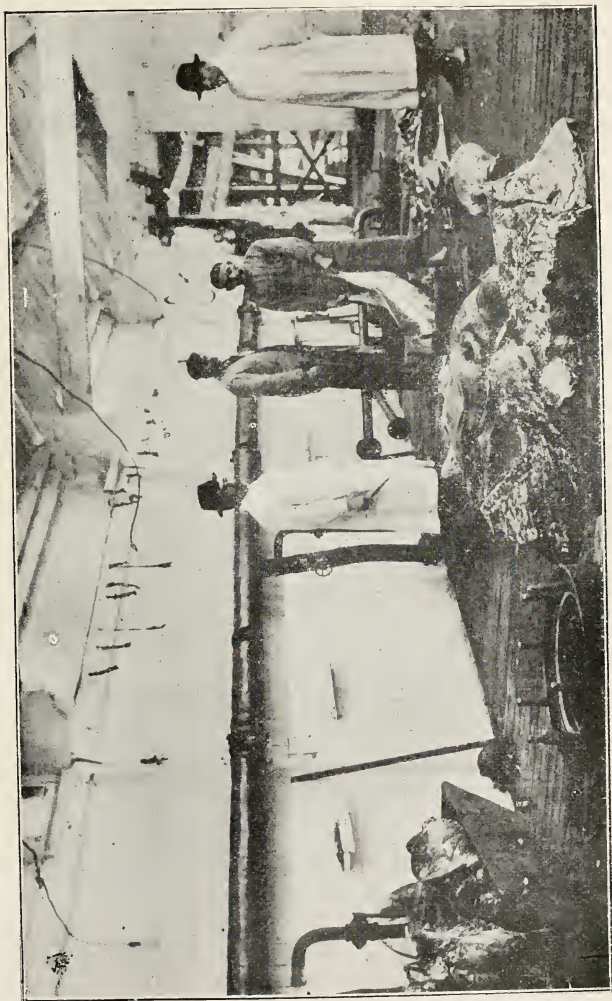
VETERINARY INSPECTION
PUTTING ON THE SANITARY CONTROL TICKET





THE REJECTED CARCASSES (Frigorifics)





THE DIGESTER'S

THE INSPECTOR WATCHING THE REJECTED CARCASSES UNTIL IS ESTERILIZATION IN THE DIGESTER'S





LOGT
LIBRARY
3

199560

SF
808
A7

Argentina

THE UNIVERSITY OF CALIFORNIA LIBRARY

